

AMERICAN Railroad Journal.

ESTABLISHED 1831.

Steam Navigation, Commerce, Finance, Banking, Machinery, Mining, Manufactures.

SECOND QUARTO SERIES.—VOL. XXXVIII., No. 24.]

NEW YORK, JUNE 24, 1882.

[WHOLE No. 2,409.—VOL. LV.]

CONSTRUCTION.

CARS of the Canadian Pacific Railway are now running 130 miles north of Pembroke, Ontario.

A NEW iron bridge, to cost \$20,000 is to be built over Newtown Creek, L. I., in place of the old "Penny Bridge."

TRACK laying on the Northern California Railroad commenced at Willows, in Calusa county, on the 19th inst.

THE survey of the Scioto Valley Railroad extension from Columbus, Ohio, to Fort Wayne, Ind., is about completed.

THE completion of the Missouri Pacific extension to Omaha was celebrated on the 15th inst. by an excursion, a banquet, etc.

THE Bell Telephone Company are constructing a line between Ottawa and Montreal. The western end of the line is already finished to Buckingham.

It is announced that the Canadian Pacific Railway, between Prince Arthur's Landing and Winnipeg, Man., will be open for passenger and freight traffic on July 1.

THE extension of the East Tennessee, Virginia and Georgia Railroad, from Macon to Atlanta, is to be completed on the 15th of July and to Rome on the 1st of September.

THE first sod of the Gatineau Valley Railway was turned on the 15th inst. by Mr. Chapleau. A large number witnessed the ceremony. The Premier was presented with the customary silver spade.

THE Mackinaw extension of the Grand Rapids and Indiana Railway will be opened for business July 3d. The new extension is 36 miles long and runs from Petoskey to the Straits of Mackinac.

THE formal opening of the short-line route between Baltimore, New York and other eastern cities, via the Shenandoah Valley and Western Maryland railroads through Hagerstown, took place on the 19th inst., and was an unexampled success.

THE Shenandoah Valley Railroad, extending from Roanoke, Va., to Hagerstown, Md., has been completed and opened for travel throughout its whole length—240 miles. This road forms a direct line between northern cities and the South and West.

THE Sea Isle City branch of the West Jersey Railroad, extending from the main line a short

distance north of Seaville station to Sea Isle City, a recently established bathing resort, a distance of between four and five miles, was opened for the transportation of freight and passengers on the 21st inst.

THE last spike has been driven which completes the connection between the work on the Canadian Pacific Railway construction eastward from Winnipeg, and westward from Thunder Bay. After ballasting, traffic will be open between Winnipeg and Lake Superior. This contract is said to be the most difficult ever attempted in a railway line.

THE Cape May Point (N. J.) Council have passed over the Mayor's veto the ordinance empowering the Cape May Point Railway Company to build a railroad along the ocean side of Beach avenue and across Ocean, Cape and Central avenues. It is stated that the company has secured the right of way to Cape May City line, and will there connect with the Schellinger's Landing road.

A DISPATCH dated Meriden, Conn., June 20, says that \$186,000 has been pledged towards the \$300,000 needed to build an already surveyed railroad, eleven miles long, between that city and Cromwell, on the Connecticut River. The Connecticut Valley Railroad Company has promised to lease to the new road rolling-stock and give it entrance to Springfield, while communication could be had with New York by water.

THE Northern Railroad and Piermont branch of the New York, Lake Erie and Western Railroad are to be changed from six feet to the standard gauge on the 24th inst. The eastern division and all its branches will then be of standard gauge, except the New Jersey and New York Railroad, which does not belong to this company, but simply uses its tracks for some 7½ miles out of Jersey City. That road will also have its gauge changed shortly.

WE learn from Constantinople that a German company, presided over by Herr Bleichroder, of Berlin, has applied for a concession of a line between Constantinople and Bagdad. The Sultan has appointed a commission, presided over by the Minister of Commerce, to report upon the proposed line, the length of which is estimated at 1,500 miles. It is proposed that the construction of so considerable mileage should not be taken in hand all at once, but that the line should be constructed in sections, as may be convenient or desirable.

A DISPATCH from Harrisburg, Penn., says that it is the intention of the South Pennsylvania Railroad Company to construct a line from Marysville on the Susquehanna, a few miles above that city, through Perry county into Fulton county, and by way of Bedford and across the Allegheny Mountains near Berlin, into and through Somerset county; thence their line crosses Laurel Hill range and descends Indian creek to the Youghiogheny River, thence to Connelsville and Uniontown, across the Monongahela River, and by way of Waynesburg, Green county, to Wheeling, W. Va.

A COPY of the *Official Gazette*, of the Republic of Costa Rica, dated April 18, 1882, contains the articles of an agreement purporting to be executed between Manuel Arguello, Secretary of State of the Republic, and Minor Coope Keith, in Article 1st of which the Government concedes to Mr. Keith the working of the railway between Rio Lucio and the Port of Limon for the term of five years, which are to be reckoned from 1st January 1883 forward, on the understanding that this concession shall cease as soon as the Government contract for the continuation of the railway from Rio Lucio to San Jose. During the remaining eight months of this year the contractor shall complete the line between Limon and the Rio Lucio, and shall maintain and work it on the same conditions stipulated for the years before stated.

ORGANIZATION.

AT the annual meeting of the Nevada and Oregon Railroad Company, held at Reno, Nevada, on the 7th inst., the following board of directors was elected: D. W. Balch, C. A. Bragg, A. H. Manning, W. F. Berry, R. L. Fulton, of Reno; F. F. Fowler, of New York, and George A. King, of San Francisco.

THE directors of the Cincinnati and Ohio River Railroad Company recently elected are: James G. Blaine, of Maine; Marshall Jewell, of Connecticut; H. C. Parsons, of New York; Orlando Smith, of Columbus, O.; Theo. Cook, W. M. Goodman, William Ramsay and J. F. Follett, Cincinnati; W. A. Hutchins, Portsmouth, O.; A. J. Warner, Marietta, O.

THE directors of the Burlington and Ohio River Railroad Company, chosen at a meeting of the stockholders held at Carlinville, Ill., on the 14th inst., are: W. C. Shirley, Staunton, Ill.; G. P. Merrill, St. Louis; A. Baxter, Lima, O.; W. H. Manning, New York; C. W. Brad-

ley, New York; J. L. Plain, Carlinville, Ill.; L. B. Smith, Scottville, Ill.; George H. Valliant, H. S. Clay, Jacksonville, Ill.

The purchasers of the Pennsylvania Petroleum Railway, of which Thomas P. Fowler, of New York, was trustee, met in Titusville, Penn., on the 20th inst., and organized a new company to be known as the Petroleum Railway Company of Pennsylvania. The following are the officers: President, Adelbert H. Steele, of Titusville; secretary, D. W. Lockart, of Titusville; directors, James T. Blair, of Greenville; Francis Dunning, of New York; Henry C. Bloss, Samuel Miner and Francis H. Gibbs, of Titusville, and J. H. Gray, of Cambridge.

At the annual meeting of the stockholders of the Rome, Watertown and Ogdensburg Railroad Company, held on the 7th inst., the following directors were chosen: Samuel Sloan, William S. Dodge, Percy R. Pyne, Gardner R. Colby, Roswell G. Rolston, John S. Barnes, Charles Parsons and Clarence S. Day, of New York; Talcott H. Camp, Watertown; John S. Farlow, Boston; William M. White, Canaserayo; Theodore Irwin, Oswego, and Solon D. Hungerford, Adams. On the 14th, the Board elected the following officers: President, Samuel Sloan; treasurer, J. A. Lawer; executive committee, Samuel Sloan, Charles Parsons, Clarence S. Day, John S. Farlow and Talcott H. Camp.

PERSONAL.

J. L. KIMBALL, of Hagerstown, Md., is president of the Shenandoah Valley Railroad Company.

WM. RITCHIE, of Frederick, Md., has been elected secretary of the St. Louis and Cairo Railroad Company.

SAMUEL H. TAGART has been appointed a director on the part of the City of Baltimore, in the Western Maryland Railroad Company, vice Samuel H. Adams, deceased.

C. H. DAVIS, lately general accountant of the Pullman Palace Car Company, has been promoted to the new and most responsible office of auditor in that very extensive and enterprising concern.

O. L. RISING of the Wabash, St. Louis and Pacific Railway has been elected president, and C. L. Pessegrie of the Chicago, Burlington and Quincy Railroad, secretary, of the Railroad Employees' Mutual Benevolent Association of the United States.

P. E. FAIRBANKS has been appointed general superintendent of the Newfoundland Railway Company, with headquarters at St. John's. He will have charge of the completed road and of what may be completed hereafter, its rolling-stock, and all other property and equipment.

THE following gentlemen constitute the "Tariff Commissioners," nominated by the President, and confirmed by the Senate on the 20th inst.: John L. Hayes, of Massachusetts, chairman; Henry W. Oliver, of Pennsylvania; Jacob A. Ambler, of Ohio; Robert P. Porter, of the District of Columbia; John W. H. Underwood, of Georgia; Duncan F. Kenner, of Louisiana; Alexander B. Boteler, of West Virginia; Wm. H. McMahon, of New York.

Statement of the Public Debt of the United States, June 1, 1882.

DEBT BEARING INTEREST.		
	Amount Outstanding.	Accrued Interest.
6 per cent loan, 1861-'81, continued at 3½ per cent.	\$26,266,300 00	\$383,050 21
6 per cent loan 1863-'81 continued at 3½ per cent.	47,834,600 00	697,587 92
5 per cent funded loan of 1881.....	401,503,900 00	1,171,153 04
4½ per cent funded loan of 1891.....	250,000,000 00	2,812,500 00
4 per cent funded loan of 1907.....	738,871,450 00	4,925,809 66
4 per cent refunding certificates.....	476,550 00	3,177 00
3 per cent navy pension fund.....	14,000,000 00	175,000 00
Aggregate of debt bearing interest.....	\$1,478,952,800 00	\$10,168,177 83
Interest due and unpaid.....		2,244,926 38
DEBT ON WHICH INTEREST HAS CEASED SINCE MATURITY.		
	Amount Outstanding.	Interest due and unpaid
4 to 6 per cent. old debt, 1837.	\$57,665 00	\$64,174 81
5 per cent. Mexican indemnity stock 1846,.....	1,104 91	85 74
6 per cent. bonds, 1847.....	1,250 00	22 00
6 per cent. bounty land scrip, 1847.....	3,275 00	213 06
5 per cent. Texas indemnity bonds, 1850.....	20,000 00	2,945 00
5 per cent. bonds, of 1858....	8,000 00	.....
5 per cent. bonds, of 1860....	10,000 00	600 00
6 per cent. 5-20 bonds, 1862, called.....	370,090 00	8,348 14
6 per cent. 5-20 bonds, June 1864, called.....	58,550 00	106 44
6 per cent. 5-20 bonds, 1863, called.....	70,750 00	18,674 41
5 per cent. 10-40 bonds, 1864, called.....	394,500 00	93,690 51
6 per cent. Consol. bonds, 1865, called.....	384,150 00	13,751 88
6 per cent. Consol. bonds, 1867, called.....	988,250 00	194,805 40
6 per cent. Consol. bonds, 1868, called.....	274,250 00	22,491 45
6 per cent. loan, Feb. 8, 1861, matured Dec. 31, 1880....	86,000 00	5,070 00
5 per cent. funded loan 1881, called.....	1,387,050 00	20,922 48
Oregon War Debt, March 2, 1881, matured July 1, 1881.	12,950 00	1,855 50
6 per cent loan of July 17 and Aug. 5, 1861, matured June 30, 1881.....	702,900 00	21,825 00
6 per cent loan of July 17 and Aug. 5, 1861, continued at 3½ per cent, matured Dec. 24, 1881, and Jan. 29, 1882, called.....	8,815,100 00	87,201 68
6 per cent. loan of March 3, 1863, matured June 30, 1881.	236,500 00	8,947 50
1-10 to 6 per cent. Treasury notes, prior to 1846.....	82,525 35	2,668 06
1-10 to 6 per cent. Treasury notes, 1846.....	6,000 00	206 00
6 per cent. Treasury notes, 1847.	950 00	57 00
3 to 6 per cent. Treasury notes, 1857.....	1,700 00	99 00
6 per cent. Treasury notes, 1861.	3,000 00	364 50
7 3-10 per cent. 3 years' Treasury notes, 1861.....	16,300 00	1,104 43
5 per cent. 1 year notes, 1863..	42,175 00	2,119 60
5 per cent. 2 year notes, 1863.	32,900 00	1,643 55
6 per cent. compound interest notes, 1863-64.....	221,460 00	45,230 87
7 3-10 per cent. 3 years' Treasury notes, 1864-65.....	138,950 00	4,439 03
6 per cent. certificates of indebtedness, 1862-63.....	4,000 00	253 48
4 to 6 per cent. temporary loan, 1864.....	2,960 00	244 19
3 per cent. certificates, called.	5,000 00	394 31
Aggregate of debt on which interest has ceased since maturity.....	\$14,440,165 26	\$624,555 02
DEBT BEARING NO INTEREST.		
	Amount	Accrued Interest
Demand notes, 1861-62.....	\$59,810 00	not paid.
Legal tender notes, 1862-63....	346,681,016 00	
Certificates of Deposit.....	12,330,000 00	
Coin certificates, 1863.....	5,055,420 00	
Silver certificates, 1878.....	66,736,220 00	
Unclaimed interest.....		5,726 51
Fractional currency, 1862, 1863 and 1864 \$15,425,437 77		
Less amount estimated as lost or destroyed, act of June, 21, 1879.....	8,375,934 00	
	7,049,503 77	
Aggregate of debt bearing no interest.....	\$437,911,969 77	\$5,726 51

RECAPITULATION.

	Amount Outstanding.	Interest.
Debt bearing interest in coin, viz:		
Bonds at 6 per cent., continued at 3½ per cent.	\$74,100,900 00	
Bonds at 5 per cent., continued at 3½ per cent.	401,503,900 00	
Bonds at 4½ per cent.....	250,000,000 00	
Bonds at 4 per cent.....	738,871,450 00	
Refunding certificates....	476,550 00	
Navy pension fund, 3 p.c.	14,000,000 00	
	\$1,478,952,800 00	\$11,643,769 51
Debt on which interest has ceased since maturity.	14,440,165 26	624,555 02
Debt bearing no int., viz:		
Old demand and legal-tender notes.....	\$346,740,826 00	
Certificates of deposit....	12,330,000 00	
Coin & silver certificates.	71,791,640 00	
Fractional currency.....	7,049,503 77	
	\$437,911,969 77	
Unclaimed interest.....		5,726 51
	\$1,931,304,935 03	\$12,273,991 04
Total debt, principal and interest to date, including interest due and unpaid....		\$1,943,578,926 07
AMOUNT IN TREASURY.		
Interest due and unpaid.....	\$1,475,531 68	
Debt on which interest has ceased.....	14,440,165 26	
Interest thereon.....	624,555 02	
Gold and silver certificates.....	71,791,640 00	
U. S. notes held for redemption of certificates of deposit.....	12,330,000 00	
Cash balance available June 1, 1882.....	141,441,876 69	
	\$242,103,768 65	
Debt, less am't in Treasury June 1, 1882..	\$1,701,475,157 42	
Debt, less am't in Treasury May 1, 1882..	1,711,850,598 61	
Decrease of debt during the month.....		\$10,375,441 19
Decrease of debt since June 30, 1881....		\$139,123,654 56
BONDS ISSUED TO THE PACIFIC RAILROAD COMPANIES, INTEREST PAYABLE IN LAWFUL MONEY.		
	Amount Outstanding.	Accrued Interest not paid.
Central Pacific bonds, 1862-64 \$25,885,120 00	\$25,885,120 00	\$647,128 00
Kansas Pacific bonds, 1862-64 6,303,000 90	6,303,000 90	157,575 00
Union Pacific bonds, 1862-64 27,236,512 00	27,236,512 00	680,912 80
Cent. Branch Union Pacific bonds, 1862-64.....	1,600,000 00	40,000 00
West'n Pacific Bonds, 1862-64 1,970,560 00	1,970,560 00	49,264 00
Sioux City & Pacific bonds, 1862-64.....	1,628,320 00	40,708 00
Totals.....	\$64,623,512 00	\$1,615,587 80
Interest paid by the United States, \$53,405,977.38; interest repaid by transportation of mails, &c., \$15,112,847.81; interest repaid by cash payments: 5 per cent net earnings, \$655,198.87; balance of interest paid by United States, \$37,937,930.70.		
The foregoing is a correct statement of the public debt, as appears from the books and Treasurer's returns in the Department at the close of business, May 31, 1882.		
CHARLES J. FOLGER, Secretary of the Treasury.		

THE WILMINGTON CAR WORKS.—Bowers, Dure & Co. have just completed 20 passenger cars for the Long Island Railroad, and are now at work on 72 cars for the Manhattan Elevated Railroad. The cars are finished in Queen Anne style with cane backs and seats. They are fitted with the Eames brake, Allen paper wheels with steel tire and axle, and French's springs. They are especially handsome in interior decoration and finish, the woods being mahogany and oak. The cars for the Long Island Railroad have a very large toilet room, with wash-bowl and plate glass mirror, and are intended to be first-class in every way. This firm is also just completing 100 20-ton coal cars for the Norfolk and Western Railroad. They have over 500 men employed and make their own bolts, nuts, washers, etc., and emboss their own glass, and claim that in this way they effect quite a saving. They have large orders ahead and consider business very good.

THE Rohler Improved Cattle Car Co., of New York, has been incorporated with a capital of \$500,000.

The Suez Canal.

From an advance copy of the report of the managers of the Suez Canal we learn the dividend for 1881 will be 43f. 80c. per share. The total receipts of the year were 54,676,189f., so that after deducting the working expenses, interest and redemption of obligations, and interest at 5 per cent on shares, there remains, while still providing 5 per cent for the statutory reserve, a net profit of 24,678,046f. 38c. The maritime traffic consisted of 2,727 vessels, the gross tonnage of which gauged 5,794,401 tons. Compared with 1880, this shows an augmentation at the rate of 34 per cent. Seven new lines, the report adds, have been established during the year, and the regular services have added to their material 46 new steamers. The excellent condition of the canal has been not only maintained, but even still further improved by the works carried out by the company in the interest of commerce. The average price of land sold at Port Said has risen to 40f. 20c. the square metre. As at present circumstances, the canal is adequate to double the traffic at present using it. In prospect, however, of a future still greater increase of navigation through the canal, the directors request from the shareholders the necessary powers to enable them to realize at more frequent intervals successive issues of obligations, to extend over a period of 27 years.

Brazilian Submarine Telegraph.

SIR JAMES ANDERSON (not Lord Monck) presided over the late meeting, and it was he who said he would not sell a share on account of Jay Gould's threatened competition. The American gentleman has projected so many things that have not proved successful, that people are no longer alarmed at his projections. Some have certainly taken root and bid fair to bear fruit, yet others have gone off into space, and are not. In the latter class it would be well for all parties if his threatened competing scheme against the Brazilian Submarine Telegraph were included. Should it die a premature death a heavy loss to those who backed it would doubtless be saved. It appears from Sir James Anderson's statement that Mr. Jay Gould's opposition cable is to go from Brazil to North America, and that all the traffic of the Brazilian Submarine he could compete for is about 15 per cent of that company's existing gross traffic. Sir James added, however, that they had so much in their favor as to the European traffic that he did not fear the competition at all, if it arose, which is not yet quite clear.

The Brazilian Submarine is a very strong company, having all its moderate amount of capital (£1,300,000) in ordinary shares, being encumbered with neither debentures nor preference shares, possessing now a powerful real reserve fund of some £400,000, earning about 11 per cent profit in a year, of which 7 is paid in dividend, and 4 put by to reserve, and with a traffic that strongly increases with age. To all these advantages we may add the possession of a cable which for soundness is, as Sir James Anderson said, "the envy of every other telegraph company in the world."

Under all these circumstances of the case it would be most unfair to subject this company to competition, and we are very glad to learn that the said competition is little more than a bogie.—*Herald's Railway Journal.*

Philadelphia and Reading Companies.

The following is the comparative statement of the Philadelphia and Reading Railroad Company and the Philadelphia and Reading Coal and Iron Company for the month of May 1882 and 1881:—

	1882.	
	GROSS RECEIPTS.	Profit for mo. Year to date.
Railroad traffic.....	\$719,201 27	\$3,766,487 69
Canal traffic.....	35,207 81	113,384 14
Steam colliers.....	10,140 73	168,391 60
Richmond coal barges.....	13,617 15	49,342 72
Total Railroad Co.....	\$760,932 66	\$3,912,152 43
Reading Coal & Iron Co.....	19,641 59	255,287 31
Total of all.....	\$780,574 25	\$4,167,438 74
	TONNAGE & PASSENGERS.	Month. Year to date.
Tons of coal on railroad.....	644,165 03	3,602,529 16
Tons of merchandise.....	652,442 11	3,716,054 00
Passengers carried.....	973,081	5,368,402
Coal transp by stn colliers.....	51,409 00	281,155 02
	TONS OF COAL MINED.	
By Coal and Iron Company.....	285,950 11	1,681,359 05
By tenants.....	132,147 11	656,099 04
Total mined from lands owned and controlled by Co. and from leasehold estates.....	418,098 02	2,338,458 09

	1881.	
	GROSS RECEIPTS.	Profit for mo. Year to date.
Railroad traffic.....	\$695,897 39	\$3,427,655 51
Canal traffic.....	78,007 48	28,544 93
Steam colliers.....	4,327 69	96,647 37
Richmond coal barges.....	1,290 89	1,196 64
Total Railroad Co.....	\$779,523 45	\$3,554,044 45
Reading Coal & Iron Co.....	46,331 11	295,186 72
Total of all.....	\$825,854 56	\$3,849,231 17
	TONNAGE & PASSENGERS.	Month. Year to date.
Tons of coal on railroad.....	630,267 00	3,389,848 06
Tons of merchandise.....	626,073 06	2,981,663 00
Passengers carried.....	863,399	4,613,836
Coal transp by stn colliers.....	45,928 13	246,905 06
	TONS OF COAL MINED.	
By Coal and Iron Company.....	298,377 19	1,502,218 01
By tenants.....	121,550 19	660,507 01
Total mined from lands owned and controlled by Co. and from leasehold estates.....	419,928 18	2,162,725 02

Total of both companies for the month of May, 1882: Gross receipts, \$2,878,009.03; gross expenses, \$2,097,434.78—profit, \$780,574.25.

The Origin of Trades Unions.

The original cause of the formation of Trades Unions in the United States is said to be from the action of the mill-owners in the New England States. In the cotton mills numerous females were employed. The mill-owners conspired each to keep his own employes at prices fixed by the employer. No workman, male or female, leaving one factory could get employment in another, without a certificate from the foreman or owner where last employed that he or she had left with the consent of the factory where last engaged, no matter how low the wages, even at starvation prices. Even if wages were due her or him they could not be collected without a great sacrifice. The mill-owners took advantage of stay laws and of appeals to court until the use of lawyers' fees overran the amount of the judgment, and hence, no one discharged or absent without leave, as an employe, could get their money.

An anecdote of Gen. B. F. Butler, when a

young lawyer, which brought him prominently into notice, although oft times published, is still germane to the matter, and will bear repetition. A young lady had a claim against one of the cotton mills for work, and payment was refused. She had seen one or two lawyers, who advised her of the course the mill-owners would take to deprive her by procrastination and the delays the law allowed them to take. Mr. Butler told her he would collect it.

"But when?"

"Well, by noon to-morrow, I think," was the reply.

That afternoon the suit was commenced, and that night the water-wheel of the factory was attached to secure the debt, and the sheriff had fastened it with a lock and chain. The water-wheel was the motive power of the factory; no work could be done; the whole machinery was idle, so were over one hundred hands, until the wheel was released. Butler could not be found until near noon, when on the receipt of the money in payment of all the costs, it was released—every five minutes of idle time costing the mill-owner more than double the amount of the woman's claim. After Butler's water-wheel attachment, employes could collect their just dues without being forced to go to law.

Anthracite Coal Tonnage.

The following is an official statement of the anthracite coal tonnage for the month of May, 1882, compared with the same month in 1881:—

	May, 1882.	May, 1881.
Reading Railroad.....	541,462	534,063
Lehigh Valley Railroad.....	480,990	415,681
Central Railroad of New Jersey.....	332,627	299,478
Delaware, Lackawanna and Western.....	368,248	301,660
Delaware and Hudson Canal.....	215,148	214,865
Pennsylvania Railroad.....	208,808	194,921
Pennsylvania Coal Co.....	103,686	90,061
New York, Lake Erie and Western Railroad.....	15,140	36,068
Total.....	2,266,097	2,086,742

The following is the statement for the year 1882, compared with the year 1881:—

	1882.	1881.
Reading Railroad.....	2,320,207	2,339,074
Lehigh Valley Railroad.....	2,058,826	2,013,999
Central Railroad of New Jersey.....	1,483,526	1,471,369
Delaware, Lackawanna and Western.....	1,591,200	1,580,496
Delaware and Hudson Canal.....	1,094,770	1,176,339
Pennsylvania Railroad.....	836,583	823,674
Pennsylvania Coal.....	472,048	464,446
New York, Lake Erie and Western Railroad.....	85,647	179,859
Total.....	9,942,812	10,049,258

The stock of coal on hand at tide-water shipping points, May 31, 1882, was 611,441 tons; on April 30, 1882, 752,865 tons—decrease 141,524 tons.

The old Good Friday custom of flogging an effigy of Judas Iscariot was, after a lapse of two years, duly celebrated in the London docks on April 7, by the crews of three Portuguese and Maltese vessels. The effigy of the traitor, hewn out of a block of timber, was carried by chosen members of the crews round the quarter-deck and hanged from the yard-arm, and each man chanted his vituperation as he lashed the figure with knotted ropes. The scourging over, Judas was cut down, thrown upon the deck, spat upon, cursed, and kicked to the galley fire, where he was burned into a charred mass, and then hurled into the water, after which the sailors went in procession to church.

AMERICAN Railroad Journal

ESTABLISHED 1832.
PUBLISHED WEEKLY BY THE
AMERICAN RAILROAD JOURNAL CO.,
284 Pearl Street, cor. Beekman, New York.

Subscription, per annum.....	\$5 00
" six months.....	3 00
" three months.....	1 75
Foreign subscription, per annum (in- cluding postage).....	6 00
Foreign subscription, six months (in- cluding postage).....	3 50
Single copies.....	10

Subscribers are requested to report to our office any irregularity in receiving the JOURNAL.

Contributed articles relating to Railroad matters generally, Mining interests, Banking and Financial items, Agricultural development, and Manufacturing news, by those who are familiar with these subjects, are especially desired.

MR. FREDERICK ALGAR, Nos. 11 and 12 Clements Lane, Lombard Street, London, E. C., England, is the authorized European Agent for the JOURNAL.

GEO. F. SWAIN, *President*.
S. PROCTOR THAYER, *Vice-President*.
EDW. A. WRIGHT, *Treasurer*.
CHAS. T. VALENTINE, *Secretary*.

New York, Saturday, June 24, 1882.

Entered at the Post Office at New York City as Second-Class Mail Matter.

PRINCIPAL CONTENTS.

Construction.....	433
Organization.....	433
Personal.....	434
Philadelphia and Reading Companies.....	435
EDITORIAL:—	
Labor vs. Capital.....	436
Clouds Overhanging two Continents.....	437
The Erie and its Connecting Lines.....	438
Stock Exchange and Money Market.....	440-442
The Coal Trade.....	442
Baker's New Patent Car Heater.....	445
CORRESPONDENCE.....	
The Grand Canon of the Arkansas.....	450
How to Treat a Boiler While Out of Use.....	450
Canadian Pacific Railway.....	456

LABOR VS. CAPITAL.

AS we wrote the above caption to this editorial, the thought came to the surface that we were preparing to deal with a time-worn, almost threadbare subject. But we are instantly reminded by the great labor strikes now in progress in different sections of our own country, the difficulties in Ireland, Russia and other parts of the world, that no subject can be time-worn or threadbare which has not admitted of a peaceable solution. To-day we behold in this country men, who a few years ago were comparatively unknown, now controlling such vast interests that a false move on their part can plunge the commercial world into great distress. In this city of New York we have a few men any one of whom can so manipulate the money market as to cause a panic. In the West we have men combining together operating in breadstuffs and other merchandise, with that degree of success that at present writing very few persons can really afford to eat meat,

potatoes, eggs and some other articles heretofore deemed indispensable to human living. Now there can be no valid objection to rich men combining for the purpose of carrying out to a more successful completion great enterprises, any more than for laboring men to form themselves into Labor Unions, Protective Societies, etc. for the regulation of wages, hours of service and quality of work to be performed. Laboring men have no more right to combine than capitalists, neither have capitalists any more right than laboring men. So far as we can see, one party has the same right as the other.

Now there are results following these combinations which are radically wrong. When capitalists combine to raise the price of the necessities of life, the laborer whose wages have been graded so that he could just live when these necessities were at the minimum, finds that his purchasing power is contracted to that extent that he cannot live on what his labor produces. All laboring men find that while the price of food advances, wages do not advance in the same ratio, if at all. It therefore follows, as an inevitable result, that with provisions advancing in price and wages at a standstill, the laborer, who just earned a living when food was cheap, now that food is dear finds himself anxious about his daily bread. At this juncture the employer should step in and relieve his employe. The laborer whose services were worth his living at one time is worth his living at another time, when he gives the same services in quality and amount. The capitalist, already rich, has no right to grind the poor in order to increase his riches. It is as cowardly to do this as it would be for a champion prize-fighter to whip a dying woman. The rich can play battledore and shuttlecock with the rich, and the best man win, but he must keep his hand off the poor. When the rich combine to oppress the laborer, laborers must form a combination to protect themselves. There is not so much difference between capital and labor, provided you get enough laborers together. A capitalist may have a million dollars, a laborer nothing but his skill. If by his skill or labor he earns \$600 per year, his earnings represent 6 percent on \$10,000, and to this extent he in his person is a \$10,000 bond paying him an income of 6 per cent. One hundred such laborers then represent the capital of one millionaire. This problem can be worked to as high figures as the curious choose, but the foundation is enough for our purpose—that one hundred men earning each \$600 per annum, stand on an equal money value with the million dollars held by a single capitalist. A combination of working-men can then meet a combination of capitalists when they are organized in the ratio of one hundred

laborers on one side to every million dollars on the other side, and treat on a money equality. The question of brains will then be the only unknown quantity, though it is fair to suppose that one man who can accumulate a million dollars has more of a certain order of brain than the hundred men who just earn a living. Yet this inference will not always prove correct, as in some cases time, circumstance and place have combined so that a man could not help getting rich, while another man of better brain and greater worth, for whom circumstances, time and place have not combined, may remain the victim of poverty all his days. But this question of brain need not disturb so long as on either side there are men with brain enough to determine on quality, quantity and demand. Granted, then, that in these labor organizations there is brain enough to weigh the quality, quantity of and demand for labor, we do not see why they are not as able to dictate terms to capitalists as capitalists are to dictate terms to them. It is to be feared though from observation that labor has thought only of the present—unmindful of the future, forgetful of the past. There are certain times when the capital of the capitalist will earn him only three per cent, while the capital of the laboring man is continuing to earn him six per cent. At such times the laborer does not strike. There are other times when the capitalist may succeed in getting nine per cent. This is the time when the laborer calculates to strike, forgetting the past when the capitalist earned only three, while he was earning six, unmindful of the future when he will earn six, while the capitalist will be obliged to return to three. This is all a mistake. Labor must place itself on the same platform on which capital stands—the platform of quality, quantity and demand. When money is in great abundance its earning power is reduced, and sometimes to a point where it is just as profitable to lock it up where it earns nothing. Its value depends wholly on its quality, quantity and demand. Now the work of Protective societies should have in view wholly and entirely the raising of the standard of its members to that quality represented by gold, and the regulating of the earning power according to the quantity and demand. When labor becomes such a drug that it can earn little or nothing, the laborer has the same right to stop work that the capitalist has to lock his money up to stop its earning. But the laborer has no right to interfere with his fellow laborer who is content to take half a loaf instead of none, any more than the capitalist who has locked up his money has the right to interfere with his brother capitalist who is content to take one.

Here is where Labor Unions have made themselves disreputable, that in claiming rights for themselves they have not allowed the rights belonging to others. A man has a right to work or not to work. If he chooses to work, no one has the right to prevent him. If he chooses not to work, no one has the right to make him. The spectacle of violence now being presented to the country by Labor unions is a violation of natural rights, and will work no permanent good, but great harm to all. The only peaceable solution to this problem is the adoption of quality, quantity and demand, and the equality of rights.

CLOUDS OVERHANGING TWO CONTINENTS.

THERE is an old saying in Wall street that "the man who will sell stocks short will, if he thinks it will help him to deliver them, strike his own mother." This is only an exaggeration of the tendency on the part of the gambler to sacrifice anything and anybody to gain the point of profit he is after. It would be strictly true to say that the speculator on the short side does not hesitate to play with fire in a magazine of combustibles. Such thin partitions do their bonds divide that it is impossible to separate the line of legitimate dealing from that of illegitimate gambling; there is, however, one characteristic which plainly bespeaks the irregular speculator, and that is the selling of any species of property for future delivery with the hope or expectation of lowering the market price before the time for delivery comes. This is essentially knavish; and has no better foundation as a business practice than that of the coast wrecker or common card sharper.

Mr. RUFUS HATCH, who was long and principally known as a stockbroker in Wall street, has recently turned, or returned his attention to dealing in breadstuffs and provisions—that having been his vocation in Chicago before he came to this city. Mr. HATCH has won some notoriety, and some money, in New York as a conspicuous Bear operator; and as one who used the newspapers openly and avowedly to accomplish his ends. This is the most honorable, but at the same time least dangerous, of the short-seller's methods; there are other means more insidious and effective practiced by others. Mr. HATCH has lately had published in the *Independent* (and perhaps in other papers) an article intensely personal in its character, and mischievous in its tendency. With the personal features wherein he attacks Messrs. VANDERBILT, GOULD, SAGE and FIELD we are not now concerned; but Mr. HATCH, in effect, invokes the aid of the communistic spirit to cast a gloom over the prospect of the political,

financial and trading world. This is reckless playing with fire.

Mr. HATCH may be sincere in his belief that bad times are before us, and that the drift of things is toward general ruin. He has the right to express this opinion publicly, and to act upon it by making contracts to sell what he has, or even what he expects to buy, in open market. It is much more likely that his views are biased by his hopes of gain; and what he now wants is to have other people think as he writes—else why does he go to the trouble and expense of printing his views? If he is sincere it is in his case, no less than in the case of many others, an affair of the liver: his general health improving, his sombre imaginings will disappear. We do, however, question both the prudence and the moral right—however it may be with the legal right—of stirring up riot and disorder, even by suggestion or prediction. Mr. HATCH's fanciful suggestion that the raising of rates of transportation by the pooled trunk lines, under Mr. FISK's management, is a cause or provocation of the labor strikes, an of discontent among the working classes, is one of this mischievous and diabolical character. It reminds one of the advice of the western man haranguing the mob: "Don't lynch him," which up to that moment they had not thought of.

Among much that we approve, more or less, such as his criticisms of the new mansions built by the railroad princes, we desire to protest against this unwarranted charge against railroad management. Transportation is now conducted at a mere fraction of its cost at any previous history of the world; and what is more to the point, the railroad has not abridged the other modes of conveyance, while the average compensation of this industry is not high—not as high as other branches. Besides it is impossible to attack the title of the persons named to their possessions without unsettling that of every other person in the land, and among the foremost those of Mr. HATCH himself. It is not long since he was freely predicting that "May" corn would be worth one dollar per bushel in Chicago, and to him and such middlemen as he is are the laboring men indebted in part for the high prices of food of which they complain.

These reflections call to mind the words of an observing American traveler, quoted in a Buffalo newspaper recently: that after taking a survey of Europe—the huge and idle standing armies, the costly courts and shows of monarchy, the non-productive nobility, the seething of communistic passions among the many poor, and the imminent dread of outbreaking war—he thinks that all the much agitated ques-

tions among ourselves seem merely insignificant, and not to be seriously entertained. The United States has nothing more to dread than a possible short crop; and every day diminishes that fear. The number of men at work, and the amount of labor-saving machinery in use, is in greater proportion than in any other nation; and were it not for the unparalleled extravagance of the women, and in a less degree that of the children, and the comparative idleness of both classes as contrasted with the women of France, for instance, we should make all Europe our debtors, and presently lay the maritime world under tribute to us. The very worst that threatens us, is that we may not have as much to export as of late years, and consequently less with which to buy finery, luxuries, and superfluities—among which may be reckoned foreign rails for an unduly stimulated railroad building mania.

Observe in Europe how the war cloud, now the eastern question, recurs to trouble its peace, as it will again and again, until the unspeakable Turk, so much worse than his religious creed, is driven east of the Dardanelles; until Egypt and the south coast of the Mediterranean are again Saracenic; until Germany, Denmark and England are Republics; until the Latin races rid themselves of the incubus of vermin priests. War and turbulence in Europe, even, so fortunately are we placed, do not mean mishap to our people. Foreign capital may be drawn hence for a few months or so, but only to return in multiplied fold. Both labor, capital and skill will be seeking America as its natural habitat. Let no one be deceived by the cry of the anti-monopolist alarmists among us, whether their object be to gain public office, or to cheat us in trade. In no other place is labor so well rewarded, nor the wholesome enjoyment of these rewards so permanently assured.

A SAILING vessel is reported to have arrived at London recently after a voyage of ninety-eight days from New Zealand, carrying a cargo of 5,000 frozen sheep, and landing them in as good condition as if only freshly slaughtered. This was made feasible by the use of an apparatus supplied by the Bell-Coleman Mechanical Refrigeration Company, which kept the holds containing the carcasses constantly down to a temperature of twenty degrees below the freezing point. Considering that this was accomplished in a sailing vessel, and that the greater part of the long voyage was through the torrid zone, the result was the more remarkable.

THE President has appointed the following Government directors of the Union Pacific Railway Company: Robert H. Baker, of Wisconsin; George G. Haven, of New York; Geo. E. Spencer, of Alabama; Watson Parrish, of Nebraska, and Isaac H. Bromley, of Connecticut.

The Erie and its Connecting Lines.

THE *Commercial and Financial Chronicle*, in its issue of the 17th inst., after alluding to the success which has attended Mr. Jewett's efforts to acquire the control of the Cincinnati, Hamilton and Dayton Railroad (30,000 out of the 35,000 shares of the capital stock having been transferred to him on the 13th inst.,) goes on to say:

"The belief is gaining ground that there is truth in the reports of a close alliance between the Erie and the New York, Chicago and St. Louis. Such an alliance would manifestly be mutually advantageous. The latter road extends from Chicago to Buffalo, and the former from Buffalo to New York—together forming a trunk line between the west and this city. Being an opposition line to the Vanderbilt system, it is not likely that it would care to deliver its business at Buffalo to the New York Central and Hudson River; and, aside from the Central, the Erie is the only other line in operation all the way from Buffalo to New York. There are several new trunk lines in progress between these two points, but they are all of them so far removed from completion that it is out of the question to treat them as yet as connecting lines. The New York, Lackawanna and Western appears to make but slow progress, and it is now stated that it is expected to have trains running over the whole line in a year—that is, next summer. Originally it was intended to have the line in operation the present summer. On the New York, West Shore and Buffalo work seem to be progressing more actively, but we believe the earliest date at present set for its completion is January 1, 1884—fully a year and a half hence. The Boston, Hoosac Tunnel and Western is the last of the proposed new trunk roads, but from the present outlook of its affairs the prospect of its ever becoming a reality seems remote indeed. It will be seen that, for some time to come, the New York, Chicago and St. Louis will be forced to work in harmony with the Erie—that, in fact, the Erie is its only available outlet to New York. It would not be surprising, therefore, if the New York, Chicago and St. Louis people, and not the Erie people as commonly supposed, should be the more anxious to bring about an alliance between the two lines.

"On the other hand, the Erie will gain not a little from such an arrangement. Its fast freight line, which used to run over the Lake Shore and Michigan Southern was some time ago ordered off that road, and the company now sends this class of freight over the Pittsburgh, Fort Wayne and Chicago, controlled by the Pennsylvania Company, with which the Erie was able to make satisfactory terms. Then the Erie also maintains the old friendly relations with the New York, Pennsylvania and Ohio (formerly Atlantic and Great Western), the election of that company last March having resulted in a victory for the friends of Mr. Jewett; and it is further reported now that the Erie is desirous of making the bond between the two roads altogether secure by leasing the line. Whether there is any basis for the report we are unable to say, though it is certain that the Chicago and Atlantic Railroad, from Marion to

Chicago, which is to give the Erie an independent line to Chicago via the New York, Pennsylvania and Ohio, is being rapidly pressed forward and is expected to be ready for operation before the end of the current year. Thus the Erie is not dependent upon the New York, Chicago and St. Louis; but there would be this positive advantage in a close connection with that road, that thus the Erie would reach one or two lake ports not now open to it. Supposing, then, all these reported arrangements completed, the position of the Erie to command an increasing share of western and southern traffic would be greatly strengthened."

National Railway Commission.

A NATIONAL Railway Commission, the functions of which shall consist in accumulating information, will be a device for creating unnecessary and useless offices. Any one who wants to accumulate information about railways can do so by reading the newspapers and studying the official reports of railway officers and State Railway Commissioners. If further information is needed, the Treasury statistical bureaus and various State railway officials can obtain it. If we are to have a National Railway Commission at all, it should be a commission that will be empowered to do something more than to compile ponderous reports that will never be read, and which never have any other utility than to furnish work for the Government printing office. Congress prints and distributes (to the junk shops) too many such reports already. Let us have a commission that can arbitrate railway disputes and rivalries, and whose decision shall be final. As for prescribing freight rates, that never can be successfully done by a commission. The rates of transportation must be regulated, like other prices—by competition and the laws of trade. Congress and the State Legislatures may, and by law ought to, prevent the consolidation of parallel lines, and the formation, by that means, of great transportation monopolies, but freight and passenger schedules can no more be prescribed by statute than can the market prices of corn and potatoes.

—Ohio State Journal.

Baltimore and Ohio and European Cable Company.

At the monthly meeting of the directors of the Baltimore and Ohio Railroad Co., held in Baltimore on the 14th inst., President Garrett stated that a new cable line would be constructed so arranged as to connect with the Baltimore and Ohio system, and that it would probably be ended on the shores of the Chesapeake and be permanently connected as a competing line to the combined organization, and at reduced rates with the Baltimore and Ohio land system, and probably with the title of the Baltimore and Ohio and European Cable Company. The statement that the Congress of the United States had for the purpose of encouraging competition given authority to railway companies to construct lines of telegraph and furnish telegraph services for the people, not only upon their own railways, but through other States, so that no technical or hostile objections could interfere with its effective work-

ing, was received with great interest. The perfect success of the telegraph lines of the Baltimore and Ohio Company attracted much favorable comment. It was stated in Chicago that through their direct lines, extending from the rooms of the Produce Exchange to those of the Corn and Flour Exchange of Baltimore, transactions had been made and orders executed and reported within three minutes, and in Cincinnati and St. Louis similar rapid work had been accomplished. Such satisfactory results have caused a great enlargement of the business of the Baltimore and Ohio Telegraph system, and such has been the increase of commercial messages in addition to its railway service that the company, upon many of its lines, has placed and is operating sixteen wires, and its policy will be to continue to enlarge its capacity to meet all requirements.

What is a Receiver?

It may be broadly asserted that the function of a Receiver, as appointed by a court, is to conserve the property intrusted to him, and when that property depends for its value upon active operations, to operate it, pending the judicial determination of the issue as to its final disposition. When, for instance, a business of any kind, such as a dry goods store, is put in the hands of a Receiver, it is supposed to be his duty to carry it on, to maintain it, and to make due accounting to the court. But in the Placerville Railroad case the appointment of a Receiver has been equivalent to the destruction of the property. The Sacramento Valley Railroad Company offered to pay into court three times the amount in dispute, provided they were allowed to operate the road, but the court required that they should pay \$375,000 into court, a demand for which no justification whatever could be or was made, and which covered bonds since declared invalid by the Supreme Court. The company refusing very properly to pay over a sum of this magnitude, when the only amount which could by any possibility have been recovered by the plaintiff was less than \$20,000, the court appointed a Receiver. There was no warrant for this course. It was distinctly against both public and private interests. It was alike injurious to the plaintiff and the defendant. Its only result was to suspend the operation of the railroad for more than two years, and to necessitate an expenditure of \$5,000 for cutting down the grass which grew all over the track, and which menaced the whole property with destruction. The appointment of a Receiver in such a case was without excuse. There could be no pretense that the railroad would be made away with. It could not be injured by operating it. It could only be injured by suspending its operation. But as the case appears to the public, Judge Hunt undertook to deprive three counties of transportation, and to ruin a valuable property, for no better reason than because a corporation refused to submit to a demand which was unreasonable and inequitable. Apparently as a punishment for this refusal, twenty-eight miles of railroad were thrown out of operation, and regardless of the heavy loss and suffering inflicted upon innocent third parties, have been stubbornly kept out of operation be-

tween two and three years. If this is not an abuse of judicial power it would be difficult to discover what is. The usual practice in the appointment of Receivers has been reversed, and for no other conceivable purpose than to do mischief and inflict injury. The law journals would do well to make a note of this, as one of the most remarkable instances of perversion of judicial practice on record.—*Sacramento Record-Union*.

What "Gumption" Is.

An address was delivered before the Golden Leaf Society of Phillips Exeter Academy, at Exeter, N. H., on the 19th inst., by Mr. Edward Atkinson, on the question: "What Advantages does an American Boy Possess," in which he argued that the young men who are soon to become the workers and controllers in the business of life should be careful not to become one-sided and not to lose the "gumption" which every boy ought to possess, and which does not form a part of the curriculum of the school or college, but is developed or lost in that part of the process of education which is outside the books and independent of the teacher. "Gumption" is that power of applying the work of the hand and the brain together under the quick application of the will, which makes a boy or man ready for any emergency, and enables him to decide at a glance, or with a single thought, the right way of doing something.

In the old time, although the organization of the schools was not as perfect as it is to-day, and although the teachers were perhaps not as competent as those of modern time, while the variety of instruction was far less, there was a no less number of able and capable men among the graduates of schools and colleges in proportion to the whole number of pupils than there is to-day. The necessity which was imposed upon rich and poor alike to do some part of the work of life with their own hands, while they were attempting to develop their mental powers, worked in the direction of that readiness and versatility which we call "gumption."

It is obvious to men who have been engaged from very early years in the active work of life, and have been charged with the duty of selecting men to fill important places, that the number of school or college graduates who have been adequately prepared to apply their instruction to immediate use constitutes a painfully small proportion of the whole number. It may be admitted that the only true result of school and college training is to enable a young man to know when and how to begin the real education which must form a part of his life, and which will not end except with life, but it ought not to happen that the method of preparation is so ill devised that it disqualifies the graduate in a measure for the work which he must do. Mr. Atkinson advocates for boys and young men in school and college an organized system of sports as a means of developing manual dexterity, urging the development of hand and brain together. His address throughout is an argument in favor of students endeavoring to acquire not only that knowledge which will enable them to design, but the

"gumption" which facilitates the ready application of knowledge to the execution of design in whatever work may demand their attention and effort.

In the battle of life, no man can win by firing blank cartridges.

INQUISITIVE people are the funnels of conversation; they do not take in anything for their own use, but merely pass it to another.

THE Wilmington (Del.) *Every Evening* says that the Lobdell Car Wheel Company is now moving part of its works to the new foundry. It intends moving all of the machinery from the old foundry at the foot of Robinson street, above Second, to the new foundry. The old foundry will eventually be entirely deserted. What it will be used for is not known, though it will not be torn down. Were it to be torn down, it would make way for Robinson street to be extended further.

THE cabalistic "O. K." was first officially used by Old Keokuk, the Pacific Chief of the Sacs and Foxes. When he sold Iowa to Uncle Sam, he signed the deed with his initials, O. K. His co-chief, the fiery Black Hawk, refused to sell or sign away the rights of his people to this beautiful land, and hence the "Black Hawk war." Old Keokuk years ago passed on to the happy hunting grounds of the Great Beyond, but his sign continues to supply a long felt want in the English language.

UNDER the new law, Chinese going home to visit with the intention of returning to this country will require a passport, but the identification of a Chinese is a difficult matter, he differs so slightly in appearance from thousands of his race. To prevent the possibility of fraud it has been suggested that the authorities should take advantage of the fact that no two human heads are shaped exactly alike. It is proposed by means of such a machine as hat-ters use for measurement to represent upon every passport by small holes punched through it the outline of a horizontal section of the owner's head.

REPORTS of the growing cotton crop represent that there are over 15,000,000 acres under cultivation. Cotton is indigenous to this country. Virginia commenced to cultivate it in 1621, or possibly before that time, but the growth of the business appears to have been very slow. More than 100 years afterwards—in 1739—a sample of cotton was taken to London, and this is considered the first export. As late as 1784, eight out of fourteen bales of American cotton were seized at Liverpool, on the ground that so much cotton could not have been produced in the United States; but in less than ten years, as much as 189,000 pounds were imported into Liverpool. In 1826, the thousands had become millions, and in 1840 the millions of pounds became millions of bales—reaching over 2,000,000 for many years, the whole product of the United States being over 4,000,000. In recent years the crop has been about the same as "before the war."

THE GREAT LAND COMPANY OF THE NORTH-WEST.—The Canadian Pacific Railway received in aid of its enterprise of extending a steel track from the Atlantic to the Pacific a land grant from the Dominion Government of 25,000,000 acres. Of this, between 2,000,000 and 3,000,000 acres have been sold. The remainder is for sale, and a company has been formed for the purchase of from 11,000,000 to 12,000,000 acres of it, paying in bonds of the Canadian Pacific Railway, for which the land company agrees to pay ten per cent above par. With the money so obtained—amounting to about \$15,000,000—the railroad company will be enabled to proceed at once to build its road and equip it. The land company makes its purchase along the line of the railroad, consolidating in one the interests of a multitude of small land companies. The capitalists concerned in the consolidation are mainly Englishmen and Canadians, with a few New Yorkers acting with the Duke of Manchester, who is the leading spirit and has been elected president of the land company. Mr. Robert Tennant, member of Parliament, of Leeds, England, is vice-president. Other prominent persons interested are Lord Elphinstone, of Scotland, and Mr. W. F. Kennedy, of New York. The corporation takes one half of the town sites as far as the line of British Columbia. Among the objects of the company is the fostering of immigration to their property from all parts of Europe.

THE rapid distribution of property under the American system is strikingly illustrated by the experience of California. Thirty years ago a few individuals owned vast tracts of land, grants of more than 100,000 acres each having been repeatedly made. John A. Sutter, who died a pensioner on the Government, once owned about 50,000 acres, including the site of the city of Sacramento. With a few exceptions the proprietors of these great estates became poor. In 1850 there were only 872 farms in California; by the last census there were 35,934. "Perhaps San Francisco," says *The Bulletin*, of that city, "is a better illustration of the social force to which reference is made than the State at large. This county contains 27,000 acres. Of these 3,277.64 are Government reservations. This leaves a total area of 23,722 acres. Of these 11,078.56 acres, or nearly one-half, were granted by the Mexican Government to thirteen individuals. The remaining 12,693.44 belonged to the pueblo in trust for its inhabitants. Nearly the whole of this area was grabbed by a score or so of squatters masquerading as the inhabitants of San Francisco. The whole peninsula may be said to have been owned once by less than forty persons. But there are now not less than 40,600 property owners who pay taxes. While this tremendous social force is in operation we need have no fears for the future of our Government. The efficient agents of the system are the distribution which takes place at death, and taxes. No doubt in some of the earlier cases improvidence and an inability to comprehend the new social phenomena by which they were surrounded accelerated distribution. But it would have come sooner or later, even if the highest qualities had been arrayed against it."

THE STOCK EXCHANGES AND MONEY MARKET.

New York Stock Exchange.

Closing Prices for the week ending June 21.

Th. 15. F. 16. Sat. 17. M. 19. Tu. 20. W. 21.

Adams Express.....					
Albany and Susq.....					
1st mortgage.....					
2d mortgage.....					
American Express.....	92 1/2	92 1/2		92 1/2	
Burl. C. R. & Nor.....					
1st mortgage 58.....	99 1/2	99 1/2	101 1/2		
Canada Southern.....	50 1/2	50 1/2	52 1/2	53 1/2	54 1/2
1st mortgage guar.....	95 1/2	95	95 1/2	95 1/2	95 1/2
Central of N. Jersey.....	71 1/2	73 1/2	75 1/2	77 1/2	74 1/2
1st mort. 1890.....	118 1/2				118 1/2
78, consol. ass.....					
78, convertible.....	111		109		110 1/2
78, Income.....					
Adjustment.....		106 1/2			
Central Pacific.....	90 1/2	90 1/2	91 1/2	92 1/2	91 1/2
68, gold.....					91 1/2
1st M. (San Joa).....	110 1/2	110	111 1/2		117 1/2
1st M. (Cal. & Or.).....					
Land grant 68.....					
Chesapeake & Ohio.....	21 1/2	22 1/2	22 1/2	23	21 1/2
1st pref.....	30 1/2	30 1/2	31 1/2	31 1/2	
2d pref.....	24		25	24 1/2	23
1st mort., series B.....	80		80 1/2	81	79 1/2
Chicago and Alton.....	131 1/2	132 1/2	132 1/2		132 1/2
Preferred.....					
1st mortgage.....					
Sinking Fund.....	113		113 1/2		112 1/2
Chi., Bur. & Quincy.....	130 1/2	130 1/2	132 1/2	132	131 1/2
78, Consol. 1903.....					
Chi., Mil. & St. Paul.....	110 1/2	111 1/2	111 1/2	112 1/2	111 1/2
Preferred.....	125	125 1/2	125 1/2	125 1/2	125
1st mortgage, 88.....					135
2d mort., 7 3-108.....					
78, gold.....		122	123		
1st M. (La. C. div.).....				122 1/2	
1st M. I. & M. div.....					
1st M. (I. & D. ext.).....					
1st M. (H. & D. div.).....	117 1/2	118 1/2		118 1/2	118 1/2
1st M. (C. & M. div.).....					
Consolidated S. F.....		122	122 1/2		
Chi. & Northwestern.....	129	129 1/2	130 1/2	131	129 1/2
Preferred.....	142	143 1/2	143 1/2	144 1/2	143
1st mortgage.....					109 1/2
Sinking Fund 68.....					110
Consolidated 78.....		131 1/2			
Consol. Gold bo'ds.....	124		125	125	
Do. reg.....					
Chi., R. Isl. & Paco.....	130 1/2	130 1/2	130 1/2	131 1/2	131
68, 1917, c.....	128 1/2				
Clev., Col. & Ind.....	73 1/2	74	75		74 1/2
1st mortgage.....					73
Clev. & Pittsburg gr.....	137		134 1/2		137
78, Consolidated.....					
4th mortgage.....					113 1/2
Col., Chi., & Ind. Cent.....	8 1/2	8 1/2	9	9	9 1/2
1st mortgage.....					
2d mortgage.....					
Del. & Hud Canal.....	104 1/2	105 1/2	105 1/2	107	108
Reg. 78, 1891.....					117
Reg. 78, 1884.....					
78, 1894.....					
Del., Lack. & Western.....	124	125	125 1/2	126 1/2	125 1/2
2d mortgage 78.....					
Consol. 1907.....					
Erie Railway.....					
1st mortgage.....					
2d mort. 58, ext.....	110 1/2				
3d mortgage.....	105 1/2				104 1/2
4th mort. 58, ext.....					
5th mortgage.....					
78, Consol. gold.....	127	127	127		
Great West. 1st mort.....					
2d mortgage.....					98 1/2
Hannibal & St. Jo.....	40				
Preferred.....	82 1/2	82	83	83	84 1/2
88, Convertible.....	106		107		107
Houston & Tex. Cen.....			70		70
1st mortgage.....					113
2d mortgage.....					115 1/2
Illinois Central.....	134	134 1/2	134 1/2	135	134 1/2
Lake Shore & Mich So.....	107 1/2	109 1/2	111 1/2	112 1/2	110 1/2
Consol. 78.....					108 1/2
Consol. 78, reg.....					
2d Consolidated.....	123 1/2				124
Leh. & W. B. con. ass.....	101	101	100	100	100
Long Dock bonds.....					
Louisville & Nash.....	67 1/2	68	67 1/2	67	64 1/2
78, Consolidated.....					61 1/2
Manhattan.....	35 1/2	35	35 1/2	35	
1st pref.....					
Met. Elevated.....	83 1/2				
1st mortgage.....	103 1/2	104		104	104
78, 1902.....	88 1/2	91	91 1/2	92 1/2	90 1/2
Michigan Central.....					124 1/2
1st mortgage.....	121 1/2				123 1/2
Morris & Essex.....					133

2d mortgage.....					
78 of 1871.....	121 1/2	121 1/2		121 1/2	121
78, Convertible.....					
78, Consolidated.....	121	121			
N. Y. Cen. & Hud. R.....	129 1/2	131 1/2	133	132 1/2	130 1/2
68, S. F., 1883.....		102			
68, S. F., 1887.....					
1st mortgage.....					135
1st mortgage, reg.....					
N. Y. Elevated.....					
1st mortgage.....					118
N. Y. & Harlem.....					
Preferred.....					
1st mortgage.....					
1st mortgage, reg.....					131 1/2
N. Y., Lake Erie & W.....	36	36 1/2	36 1/2	36 1/2	35 1/2
Preferred.....	72	73	73 1/2	74 1/2	75
2d Consolidated.....	94	94 1/2	95	95 1/2	95
New ad 58 fund.....			91	91 1/2	90
N. Y., N. Hav. & Hart.....					175
North Mo. 1st mort.....	120				
Northern Pacific.....	40 1/2	41 1/2	41 1/2	42 1/2	41 1/2
Preferred.....	78 1/2	79	79 1/2	80 1/2	79 1/2
Ohio & Mississippi.....	33 1/2	33		32 1/2	31 1/2
Preferred.....					
2d mortgage.....					
Consolidated 78.....					119
Consol. S. Fund.....					119
Pacific Mail S. S. Co.....	42 1/2	41 1/2	41 1/2	42	41 1/2
Pacific R. R. of Mo.....					
1st mortgage.....	108		108		
2d mortgage.....					114
Panama.....					
Phila. & Reading.....	58 1/2	59 1/2	60 1/2	60 1/2	58 1/2
Pitts. F. W. & Chl. gtd.....	133				
1st mortgage.....					
2d mortgage.....					
3d mortgage.....					
Pullman Palace Car.....	122 1/2	121 1/2	123 1/2	125	124
Quickkill'r Min'g Co.....					8 1/2
Preferred.....	47				
St. Louis & San Fran.....		36 1/2	38		37
Preferred.....		48 1/2	50 1/2		50 1/2
1st Preferred.....		88 1/2	90 1/2		90 1/2
St. L., Alt'n. & T. H.....	26		27		
Preferred.....	62 1/2				
1st mortgage.....					
2d mort. pref.....					
Income bonds.....					
St. L., Iron Mt. & S.....					
1st mortgage.....		115 1/2			115 1/2
2d mortgage.....		104	104		104
Toledo and Wabash.....					
1st mortgage.....					
2d mortgage.....					
78, Consolidated.....					
St. Louis Division.....	100				102
Union Pacific.....	110 1/2	111	112	112 1/2	110 1/2
1st mortgage.....		118 1/2	118 1/2		119
Land Grant 78.....					113 1/2
Sinking Fund 88.....	120 1/2	120 1/2			
United States Ex.....					
Wabash, St. L. & Paco.....	26 1/2	28 1/2	28 1/2	29 1/2	28
Preferred.....	50 1/2	51 1/2	52 1/2		51 1/2
New mort. 78.....					
Wells-Fargo Ex.....	129 1/2		129 1/2	130	
Western Pacific b'ds.....					
Western Union Tel.....	84 1/2	85 1/2	85 1/2	86 1/2	83 1/2
78, S. F. conv., 1900.....					

Boston Stock Exchange.

Closing Prices for the Week Ending June 21.

Th. 15. F. 16. Sat. 17. M. 19. Tu. 20. W. 21.

Atch., Top. & San. Fe.....	84 1/2	85 1/2		87 1/2	86 1/2
1st mortgage.....					118 1/2
Land Grant 78.....					
Boston & Albany.....		164 1/2		165 1/2	
Boston and Lowell.....				102	102 1/2
Boston & Maine.....		146		146 1/2	147
Boston & Providence.....		157			158
Bos'n, Hart. & Erieys.....		48 1/2		52 1/2	52
Burl. & Mo. R. L. G. 78.....					
Burl. & Mo. R. in Neb.....					
68, exempt.....					
48.....					
Chi., Burl. & Quincy.....	130 1/2	130 1/2		131 1/2	131 1/2
Cin. Sand & Cleve (\$50).....	26			27	26 1/2
Concord (\$50).....	98				
Connecticut River.....					
Eastern.....	43 1/2	42		44	43 1/2
New 4 1/2 Bonds.....		108 1/2			108 1/2

Fitchburg.....	129			126	
N. Y. & New England.....	47	47 1/2		51	50
78.....		115 1/2			116 1/2
Northern N. H.....	108			108	108 1/2
Norwich & Worcester.....					
Ogden & Lake Cham.....					
Old Colony.....					135
Ph., Wil. & Balt. (\$50).....					131 1/2
Portl'd, Saco & Ports.....					
Pueblo & Ark Val 78.....		113 1/2			
Pullman Palace Car.....				125	125
Union Pacific.....	110 1/2	110 1/2		112 1/2	111 1/2
68.....		116			116
Land Grant 78.....		112			
Sinking Fund 88.....		119 1/2		119 1/2	119
Vermont & Mass.....					
Worcester & Nashua.....					
Cambridge (Horse).....					
Metropolitan (Horse).....					
Middlesex (Horse).....					
Cal. & Hecla Min'g Co.....	247	248		247 1/2	247
Quincy.....	54	54 1/2		54 1/2	54 1/2

Philadelphia Stock Exchange.

Closing Prices for the Week Ending June 20.

W. 14. Th. 15. F. 16. Sat. 17. M. 19. Tu. 20.

Allegh'y Val. 7 3-108.....				50	50
78, Income.....				50	50
Buff., Pitts. & West.....	16	15 1/2	16	16 1/2	16 1/2
Camd'n & Am. 68, '83.....					10 1/2
68, 1889.....					
Mort. 68, 1889.....					112 1/2
Camden & Atlantic.....					
Preferred.....					
1st mortgage.....					
2d mortgage.....					
Catawissa.....					
Preferred.....	53 1/2	53 1/2	53 1/2		54
2d pref.....	52			52 1/2	52 1/2
78, new.....					
Del. & Bound Brook.....	125	125			
78.....					
Elmira & Williams'p't.....					
Preferred.....					
Hunt. & B. Top Mt.....		12 1/2	13 1/2	14	14
Preferred.....				26	
2d mortgage.....					
Lehigh Navigation.....	38	37 1/2	37 1/2	38 1/2	38 1/2
68, 1884.....					
Gold Loan.....		112		109 1/2	109 1/2
Railroad Loan.....		115 1/2			
Conv. Gold Loan.....	109				
Consol. Mort. 78.....					116
Lehigh Valley.....	58 1/2	59 1/2	59 1/2	59 1/2	58 1/2
1st mort. 68, coup.....					
1st mort. 68, reg.....					
2d mort. 78.....		133 1/2			
Consol. mort. 68.....		121		121	
Consol. mtg. 68, reg.....	120 1/2				
Little Schuylkill.....					
Minehill & Sch. Hav'n.....		52 1/2		62 1/2	
North Pennsylvania.....				63	
1st mortgage 68.....				107 1/2	
2d mortgage 78.....					
Gen'l mtg. 78, coup.....					
Gen'l mtg. 78, reg.....					
Northern Central.....	47	47	47	48	47 1/2
58.....				98	98

Baltimore Stock Exchange.

Closing Prices for the Week Ending June 30.

	W.14.	Th.15.	F.16.	Sat.17.	M.19.	Tu.20.
Baltimore & Ohio..	193	193	194	194	194	194
68, 1885..	103	103	104	104	104	104
Central Ohio (\$50)..	16 1/2	16 1/2	16 1/2	16 1/2	16 1/2	16 1/2
1st mortgage..	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2
Marietta & Cincin'ti	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2
1st mortgage, 78..	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2
2d mortgage, 78..	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2	110 1/2
3d mortgage, 88..	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2
Northern Cen. (\$50)	46 1/4	47	47 1/4	47 1/4	47 1/4	47 1/4
1st mort., 68 1885..	119	119	119	119	119	119
2d mort., 68, 1900..	119	119	119	119	119	119
68, 1900, gold..	119	119	119	119	119	119
68, 1904, gold..	119	119	119	119	119	119
Pitts. & Connellav. 78	124	124	124	124	124	124
Virginia 68, Consol.	50 1/4	50 1/4	50 1/4	50 1/4	50 1/4	50 1/4
Consol. coupons..	61	61	61	61	61	61
10 40 bonds..	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2
Def'd Certificates	17 1/2	17 1/2	17 1/2	17 1/2	17 1/2	17 1/2
Western Maryland..	17 1/2	17 1/2	17 1/2	17 1/2	17 1/2	17 1/2
1st M. end. by Balt	114	114	114	114	114	114
2d M. do	114	114	114	114	114	114
3d M. do	114	114	114	114	114	114
1st M. unendors'd	114	114	114	114	114	114
2d M. end. Wash Co	114	114	114	114	114	114
2d M. preferred..	114	114	114	114	114	114
City Passenger R.R.	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2

London Stock Exchange.

Closing Prices

	June 2.	June 9.
Baltimore & Ohio 58, 1927.....	105	107
Central of N. J., \$100 shares....	93	98
Do. consol. mort.....	112	115
Do. Income Bonds.....	93	97
Det. G'd Haven & Mil. Equip bds....	117	117
Do. Con. M. sp. c. till '88 aft' rep. c....	114	114
Illinois Central \$100 shares....	139	137
Lehigh Valley Cons. mortgage....	119	119
Louisville & Nashville mort 68..	99	101
Do. capital stock \$100 shares..	76	69
N. Y. Cent. & Hud. R. mt. bds..	135	138
Do. \$100 shares.....	130	131
Do. mort. bonds (stg.).....	124	126
N. Y. Lake Erie & West. \$100 shs 35 1/2	36	35
Do. 6 p. c. pref. \$100 shares..	72	73
Do. 1st Con. Mort. bds. (Erie)....	128	130
Do. do. Funded Coupon bds..	124	126
Do. 2d Consol Mort. bonds....	93	92
Do. do. Funded Coupon bds..	91	89
N. Y. Pa. & Ohio 1st mort. bonds..	45 1/2	43 1/2
Do. Prior Lien bds (sterling)....	104	108
Pennsylvania, \$50 shares.....	57 1/2	56 1/2
General Mortgage.....	122	126
Philadelphia & Reading \$50 shs 28 1/2	28 1/2	28
General Consol Mortgage.....	115	117
Do. Improvement Mortgage....	104	104
Do. Gen. Mtg. '74 ex-def'd coup. 89	101	101
St. L. Bridge 1st mort. gold b'd. 125	127	127
Do. 1st pref. stock.....	98	102
Union Pacific 1st mtg.....	120	120
Wabash, St. L. & P. \$100 shs....	29	25 1/2
Do. \$100 pref. shares.....	52	54
Do. gen. mort. bonds.....	81	76

AMERICAN RAILROAD JOURNAL.

Financial and Commercial Review.

THURSDAY EVENING, JUNE 22, 1882.

The ruling rate for call loans this morning on stocks was 3 per cent, and on governments 2 per cent. In the afternoon the quotation was 3 per cent, and at the close 2 1/2 @ 3 per cent.

The posted rates for prime bankers' sterling were 4.87 and 4.89 1/2, but the rates for actual business were 4.86 @ 4.88 1/2 for long, 4.88 1/2 @ 4.88 1/2 for demand, 4.89 @ 4.89 1/2 for cable transfers, and 4.84 1/2 @ 4.84 1/2 for prime commercial bills. The actual rates for continental bills are as follows: France, 5.18 1/2 @ 5.18 1/2 and 5.15 1/2 @ 5.15; Marks, 95 @ 95 1/2 and 95 1/2 @ 95 1/2, and Guilders, 40 3-16 and 40 9-16.

The gross receipts of the Philadelphia and Reading Railroad Company for the month of May were \$1,703,469.16, and the expenses (including rentals and interest) were \$942,536.50, leaving a profit of \$760,932.66—which is a decrease of \$18,590.79, as compared with the corresponding month of last year. The gross receipts of the Coal and Iron Company for the month were \$1,174,539.87, and the expenses (excluding interest) \$1,154,898.28, leaving a profit of \$19,641.59. The profit of both companies for the month of May was \$780,574.25, being a decrease as compared with the corresponding period last year of \$45,280.31. The profit of both companies for this year to date is \$4,167,439.74, an increase of \$318,208.57 as compared with the same period of last year.

A law has just been officially promulgated in Germany

opening a credit of \$4,910,900 for construction purposes. Of this sum \$2,351,900 will be devoted to the establishment of 16 new lines. Eight existing lines will be supplied with second lines of rails at an estimated expense of \$347,500, and \$1,147,500 will also be applied to the construction of new buildings upon existing lines. It is further proposed to increase the supply of rolling-stock, and to expend for this \$350,000. The balance of \$15,000 will be devoted to the final completion of the Bebra and Friedland.

The House of Representatives at Washington on the 19th inst. passed a bill authorizing the Secretary of the Treasury to receive, until the 1st of July, 1884, trade dollars upon presentation, and to give in exchange for them standard silver dollars. The bill repeals all laws authorizing the coinage of the trade dollar.

The officers of the Pennsylvania Railroad Company estimate that the subscriptions for the stock lately allotted by the board of directors will amount to nearly \$6,000,000. The amount of the extra stock issue authorized is about \$6,240,000.

The Boston Commercial Bulletin says that the total value of all the worsted and woolen hosiery and knit goods imported into the United States since the Revised Statutes went into effect is \$5,360,000, and that the entire duties on them would be only about \$3,000,000. As it did not occur to many of the importers to pay the duties under protest until a year ago, it is doubted whether the whole amount which the Government will be called upon to refund in this case will exceed \$500,000.

There was filed in the office of the Dutchess County Clerk at Poughkeepsie, N. Y., on the 17th inst. a mortgage for \$5,000,000 given by the Mutual Union Telegraph Company, covering their entire lines, extending through the Eastern States, New York, Ohio, Indiana, Illinois, Michigan, New Jersey, Pennsylvania, Delaware, Minnesota and other States. It will be remembered that at a meeting of the Mutual Union Telegraph Company in May, 1881, the directors were empowered to borrow \$5,000,000 for the purpose of extending the lines of the company. The instrument gave to the Central Trust Company a first mortgage on all property of every description belonging to the Mutual Union Company, as security for the payment of 5,000 6 per cent bonds, aggregating \$5,000,000, or \$1,000 each, which will fall due in 1911.

The exports of domestic provisions, tallow and dairy products during May, 1882, was \$6,165,015; May, 1881, \$9,092,642; five months ended May 31, 1882, \$42,966,216; same period in 1881, \$61,563,614; exports of provisions and tallow for the seven months ended May 31, 1882, were \$59,319,474; seven months ended May 31, 1881, \$81,370,622.

The Secretary of the United States Treasury has transmitted to Congress the report of the directors of the Mint upon the production of gold and silver in the United States in the year 1881. The report is very comprehensive, and gives the fullest possible statistics of production by States, by counties, and in many cases by mining districts. The total product of gold for the year was \$34,700,000, and of silver \$43,000,000. Colorado takes the first place among the producing States, with a yield of more than \$20,000,000, California follows with a yield of nearly \$19,000,000, and Nevada, which at one time ranked first, is now third, with a product of less than \$9,000,000. A number of important papers relating to mines and mining are appended to the report, among them a careful review of the present condition of the principal gold and silver mines in the United States.

The Receivers of the Philadelphia and Reading Railroad Company give notice that the coupons of the general mortgage 68 due January 1, 1882, and the coupons of the income mortgage 78 due June 1 and December 1, 1880, June 1 and December 1, 1881, and June 1, 1882, will be paid on June 23d. The sum required to do this will amount to between \$800,000 and \$1,000,000.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns:

New York.—Atchison, Colorado and Pacific 1st, 92 1/2; Am. Dock and Imp. 58, 93; Atlantic and Pacific 1st, 101 1/2; Boston and New York Air Line pref., 75 1/2; Cairo and Fulton 1st, 109 1/2; Central Iowa 1st, 113 1/2; Chicago and Milwaukee 1st, 124; Chicago, St. Paul, Minneapolis and Omaha, 39 1/2; do. pref., 102 1/2; do. consol., 103 1/2; Cedar Falls and Minnesota, 19 1/2; Chesapeake and Ohio cur. int., 48; Chicago, Milwaukee and St. Paul, Southern Min.

div. 1st, 109 1/2; Chicago, Burlington and Quincy, Iowa div. 58, 107; Chicago and Northwestern S. P. 58, 100 1/2; Cedar Rapids, Iowa Falls and Northern 1st, 100; Columbus, Chicago and Indiana Central 1st Trust Co. cert. ass. sup., 115; Denver and Rio Grande, 54 1/2; do. 1st, 113; do. consol., 103; Evansville and Terre Haute 1st, 96 1/2; do. consol., 96 1/2; East Tennessee, Virginia and Georgia, 9 1/2; do. pref., 16 1/2; do. 58, 75; do. inc., 46; Elizabeth, Lexington and Big Sandy 68, 95; Fort Worth and Denver, 1st, 95 1/2; Green Bay, Winona and St. Paul, 9; do. 1st, 85; Gulf, Colorado and Santa Fe 1st, 108 1/2; Houston and Texas Central, Gen'l mort., 97; do. western div. 1st, 109; Hannibal and St. Joseph 68, consol., 105; Indiana, Bloomington and Western, 39 1/2; International and Gt. Northern coupon 68, 87 1/2; do. 1st, 106; Indianapolis, Decatur and Springfield 1st, 103; Kansas Pacific 1st consol., 102 1/2; do. 68, 1895, 112 1/2; do. 68, Denver div. ass., 109 1/2; Keokuk and Des Moines, 15; Lake Erie and Western 1st, 95 1/2; do. inc., 40 1/2; Lafayette, Bloomington and Muncie 1st, 99 1/2; Louisiana and Missouri River, 16; Long Island, 57 1/2; do. 1st, 117; do. consol. 58, 97 1/2; Louisville and Nashville Gen'l mort. 68, 96; Michigan Central 58, 100; Mobile and Ohio, 17 1/2; do. 1st debent., 104 1/2; do. 2d debent., 45; Marietta and Cincinnati 2d pref., 5; Missouri, Kansas and Texas, 30 1/2; do. gen'l mort. 68, 79 1/2; do. consol. 78, 106 1/2; do. 2d, 60 1/2; Missouri Pacific, 93; do. 1st consol., 100 1/2; do. 3d, 109 1/2; Memphis and Charleston, 49 1/2; Milwaukee, Lake Shore and Western, 46 1/2; do. 1st, 101; Manhattan Beach, 31; Metropolitan Elevated 2d, 91; Minneapolis and St. Louis Iowa ext. 1st, 112; New York, Chicago and St. Louis, 11 1/2; do. pref., 29 1/2; do. 1st, 84 1/2; Nashville, Chattanooga and St. Louis, 52 1/2; do. 1st, 116; New York, Ontario and Western, 24; Norfolk and Western pref., 50; Northern Pacific 1st consol., 103 1/2; New Orleans Pacific 1st, 86 1/2; New York, Penn. and Ohio inc., 41 1/2; New York City and Northern Gen'l mort., 51; Ohio Central, 13 1/2; do. inc., 30; do. 1st, 95; Oregon Transp., 70; Oregon Short Line 68, 103 1/2; Oregon Railway and Nav., 135; do. 1st, 110; Ohio Southern 1st, 80; Peoria, Decatur and Evansville, 27 1/2; do. Evansville div. 1st, 100 1/2; Richmond, Danville and West Point, 53; Rensselaer and Saratoga, 137; Richmond and Danville, 106; do. debent., 70; Rochester and Pittsburgh, 26 1/2; Richmond and Alleghany, 19; Rome, Watertown and Ogdensburg consol. 1st mort. Trust Co. cert., 87; St. Paul, Minneapolis and Manitoba, 134; do. 1st, 112; do. 2d, 111 1/2; do. Dakota ext., 1st, 108 1/2; St. Louis and San Francisco 2d, Class B, 86 1/2; do. C, 88; St. Louis, Kansas City and Northern, Omaha div. 1st, 106 1/2; do. R. E. 78, 105 1/2; St. Louis, Iron Mountain and Southern 58, 79; do. 2d pref. inc., 84; Southern Pacific of California 1st, 106; St. Paul and Sioux City 1st, 111; Texas and Pacific, 42 1/2; do. inc. Land Grants, 65 1/2; do. 1st, 110; do. Rio Grande div. 1st, 82 1/2; Toledo, Delphos and Burlington Inc., 20; Toledo, Peoria and Western 1st, 109 1/2; Utah Southern Ext. 1st, 100; do. Gen'l mort. 78, 100; Wabash, St. Louis and Pacific, Gen'l mort. 68, 79; do. Chicago div. 1st, 82; do. Iowa div. 1st, 90; Arkansas 78, Central R. R., 10; do. I. R. & F. R., 30; Alabama, Class A, 80 1/2; Missouri 68, 1886, 109 1/2; do. 1887, 110 1/2; do. 1888, 111 1/2; do. 1889-90, 113 1/2; North Carolina Fund Act, 1868, 10; South Carolina 68, non-fund., 6; Tennessee 68, 55 1/2; Colorado Coal and Iron, 45; do. 68, 91 1/2; Cameron Coal, 33 1/2; Maryland Coal, 15; Deadwood Mining Co., 5 1/2; Little Pittsburgh, 1 1/2; Standard, 18.

Boston.—Atlantic and Pacific blocks, 111; do. 68, 98 1/2; do. inc., 27; Atchison, Topeka and Santa Fe 58, 87 1/2; do. mort. 58, 98; Boston Water Power Co., 4 1/2; Boston Land, 7 1/2; Boston, Clinton, Fitchburg and New Bedford, 62; Burlington and Missouri River 48, 81 1/2; Chicago, Burlington and Quincy 78, 128 1/2; do. 48, old, 86; do. 48, Denver extension, 83 1/2; California Southern 68, 80; Connorton Valley, 7; Connecticut and Paasumpscott Rivers R. R., 92; Chicago, Milwaukee and St. Paul, Dubuque div. 68, 103 1/2; Chicago and West Michigan, 67; Flint and Pere Marquette, 24; do. pref., 96 1/2; Iowa Falls and Sioux City, 90; Kansas City, Fort Scott and Gulf pref., 121 1/2; Kansas City, St. Joseph and Council Bluffs 78, 113 1/2; Little Rock and Fort Smith, 48 1/2; do. 78, 107 1/2; Louisiana and Missouri River, 15 1/2; Maine Central, 70; Mexican Central 78, 85; do. Block No. 2, 110; do. No. 3, 105; Marquette, Houghton and Ontonagon, 63 1/2; do. pref., 120; do. 68, 101 1/2; Massachusetts Central, 5 1/2; New York and New England 68, 104 1/2; Northern Pacific 68, 100 1/2; Oregon Short Line 68, 101 1/2; Portsmouth, Gt. Falls and Conway, 25; Rutland pref., 24; Sonoma 78, 104; Summit

Branch, 12; Toledo, Cincinnati and St. Louis, 7; do. 68, 63; do. inc., 17; Toledo, Delphos and Burlington, inc., 22%; do. Dayton div. inc., 16%; do. Southeast div. inc., 17%; Wichita and Southwestern 78, 108; Wisconsin Central, 15; do. 78, 1st Series, 85%; Allouez Mining Co., 2%; Brunswick Antimony, 11; Franklin, 12%; Huron, 1%; Harshaw, 1%; Powabie, 10; Phoenix, 1%; Sullivan, 1%; Silver Islet, 18.

Philadelphia.—Central Transportation, 34; Camden and Atlantic pref. scrip, 80; Elmira and Williamsport 58, 100; Huntingdon and Broad Top Mt. consol. 58, 86; Newquehoning Valley, 52%; Northern Pacific 7,308, 105; Norfolk and Western pref., 50%; Pennsylvania Co. 4%, 98; Pennsylvania and New York Canal 78, 1906, 124; Perkiomen 58, 104; Philadelphia and Trenton, 85; Philadelphia, Wilmington and Baltimore 48, 95; Philadelphia, Germantown and Norristown, 111; Philadelphia and Reading R. R. scrip, 100%; Sunbury and Erie 78, 117; St. Paul and Duluth, 28; Steubenville and Indiana 68, M. & N., 103%; do. A. & O., 104; Texas and Pacific consol. mort. 68, 95%; do. Rio Grande div. 68, 84%; Union and Titusville 78, 94%; Warren and Franklin 78, 113%; West Jersey and Atlantic 68, 108%. The latest quotations are: City 68, 108@118; do. free of tax, 125@133; do. 48, new, 108@115; Pennsylvania State 58, new loan, 118@119; do. 48, old, 108@112; do. 48, new, 115@116%; Philadelphia and Reading R. R., 29%@29%; do. consol. mort. 78, reg., 124@125; do. gen'l mort. 68, coupon, 100%@101%; do. 78, 1893, 119@120; do. new conv., 79@80; United New Jersey R. R. and Canal, 184%@184%; Buffalo, Pittsburgh and Western, 16@16%; Pittsburgh, Titusville and Buffalo 78, 95%@96%; Camden and Amboy mort 68, 1889, 112%@113; Pennsylvania R. R., 57%@57%; do. general mort. 68, coupon, 123%@124; do. reg., 123%@124; do. consol. mort. 68, reg., 120@121; Little Schuylkill R. R., 57%@58; Schuylkill Navigation, pref., 12%@13%; do. 68, 1882, 91@92; Elmira and Williamsport pref., 58@60; do. 58, 100@—; Lehigh Coal and Navigation, 37%@38; do. 68, 1884, 103%@104%; do. R. R. loan, 115@116%; do. Gold Loan, 109@109%; do. consol. 78, 115%@116%; Northern Pacific, 40%@40%; do. pref., 78%@78%; North Pennsylvania, 63@63%; do. 68, 107@108; do. 78, 119@120; do. 78, General mort. reg., 122@123; Philadelphia and Erie, 16@16%; do. 78, 117@118; do. 58, 103@103%; Minehill, 62%@63; Catawissa 23@24; do. pref., 54@54%; do. new pref., 52@52%; do. 78, 1900, 120@—; Lehigh Valley, 58%@59; do. 68, coupon, 120@123; do. reg., 120%@121; do. 78, 133%@134; do. consol. mort. 120%@121; Fifth and Sixth streets (horse), 159@160; Second and Third, 110@112; Thirteenth and Fifteenth, 70@75; Spruce and Pine, 40@45; Green and Coates, 80@90; Chestnut and Walnut, 90@93; Germantown, 70@75; Union, 110@115; West Philadelphia, 108@112; People's 13%@14; Continental, 100@102.

Baltimore.—Atlantic Coal, 120; Atlanta and Charlotte, 68%; do. 1st, 106%; Baltimore City 68, 1893, 125; do. 68, 1890, 117%; do. 58, 1916, 125; Columbia and Greenville 1st, 104, Canton Co. 68, gold, 105%; Cincinnati 7,308, J. & J., 132%; Maryland Defense 68, 103; Marietta and Cincinnati 1st Trust certificates, 125%; do. 2d do. 96%; do. 3d, do., 52%; Northern Central 58, 98%; Ohio and Mississippi, Springfield div. 68, 116%; Parkersburg Branch, 10%; Richmond and Danville, 99; do. gold bonds, 100; do. bonds, 1890, 107; Virginia Midland pref., 100; do. 2d mort., 108%; do. 3d mort., 90%; do. 4th mort., 52%; do. 5th mort., 95; do. inc., 60; Virginia Peellers, 32%; do. coupons, 38; do. 10-40 coupons, 66; Virginia and Tennessee 2d, 103; Wilmington, Columbia and Augusta, 108. The latest quotations are: Atlanta and Charlotte 1st, 106%@107; Baltimore and Ohio, 193@195; Baltimore City 68, 1890, 117%@117%; do. 68, 1902, 130@—; do. 58, 1894, 116; do. 58, 1916, 124%@—; Canton Co. 68, 104%@106; Columbia and Greenville 1st, 104%@105; Marietta and Cincinnati 1st, 125@126; do. 2d, 96%@97%; do. 3d, 52%@52%; Northern Central, 47%@—; do. 68, 1900, gold, 119@119%; do. 68, 1904, gold, —@119%; do. 58, 1926, 98@98%; Ohio and Mississippi, Springfield div. 68, 115%@117; Pittsburgh and Connellsville 78, 123%@125; Virginia Consola, 60@63%; do. 10-40, 42%@42%; Virginia Midland 5th, 94@95; do. income, 61@67; Virginia and Tennessee 68, 103@—; do. 88, 125@—; Wilmington, Columbia and Augusta, 107%@108%.

THE Hamburg Axe and Edge Tool Co., of Erie county, N. Y., has filed a certificate of increase of its stock from \$8,000 to \$12,000.

Iron and Steel Production in 1881.

From the annual report of James M. Swank, Secretary of the American Iron and Steel Association, which has just been completed, we obtain the statistics of the production of iron and steel in the United States during the year 1881. This report deals only with the blast furnaces, iron and steel rolling-mills, and iron ore and scrap forges, and does not contain any statistics concerning the foundries, machine shops, etc. that consume the pig iron and rolled iron and steel.

With the exception of iron rails, there is an increase in the production of every article of iron and steel in the United States in 1881 over 1880. Owing to the substitution of steel for iron in the manufacture of rails our iron rail industry has greatly decreased in extent since 1872, when the production of iron rails in this country was 905,930 net tons (2,000 pounds); the largest quantity produced in any one year in our history. In 1881, our production of iron rails was over 488,581 tons. To somewhat compensate for the decreased demand of iron rails the iron rail mills of the country annually roll quite a number of tons of steel rails from imported blooms.

While the production of iron rails in the United States has fallen off considerably during the past nine years the production of Bessemer steel rails has wonderfully increased since 1867, when they were first made to fill orders. In that year the production was 2,550 net tons, and in 1881 the production was 1,330,302 tons. The increase in the production of this class of rails in 1881 over 1880 was 375,840 tons, or nearly forty per cent. Of the total production of Bessemer rails in 1881 there were 77,173 net tons rolled by the iron rail mills of this country, mainly from blooms imported.

In 1878 we first commenced the manufacture of open hearth steel rails in this country, at the close of which year 9,397 net tons were produced. In 1881 the production was 25,217 tons, an increase of 11,602 tons over the production in 1880, or over eighty-five per cent. Of the total production of iron and steel rails in 1882 (1,844,100 net tons), Pennsylvania produced forty-eight per cent, and Illinois produced twenty-four per cent. The approximate consumption of all kinds of rails by the United States in 1881 is given at 2,230,422 net tons, which is obtained by adding the total rail production of the United States in 1881 to the quantity imported in that year—157,013 tons of iron rails and 249,309 tons of steel rails.

In 1881 we produced 1,539,157 net tons of Bessemer steel ingots, 146,946 tons of open-hearth steel ingots, 89,762 tons of crucible steel ingots, and 3,047 tons of blister and miscellaneous steel, making a total production of crude steel in 1881 of 1,778,912 net tons. During the same year our production of rolled iron (bar, angle, bolt, rod, sheet and plate iron, and nail plate), excluding rails, was 4,641,564 net tons, an increase of 346,150 tons over the production of 1880. Our production of pig iron in 1881 was 4,641,564 net tons, while in 1880 it was 4,295,414 tons. Our production of cut nails and spikes last year, the iron from which they

were made being included in the total production of rolled iron above, was 5,794,206 kegs, of 100 pounds each, of which 1,914,706 kegs were made in Pennsylvania and 1,241,102 kegs were made in West Virginia.—*Pittsburgh Chronicle.*

The Coal Trade.

The leading coal-carrying companies make the following reports of their tonnage for the week ending June 10th, and for the year to that date, compared with their respective amounts carried to the same time last year:—

	Week.	1882.	1881.
Reading Railroad.....	152,679	3,761,479	3,642,775
Schuylkill Canal.....	6,950	129,157	131,997
Lehigh Valley.....	159,324	2,937,679	2,703,048
Delaware, Lackawanna and Western.....	100,282	1,687,112	1,700,491
Shamokin.....	22,688	407,077	443,699
Central R. R. of New Jersey..	93,622	1,648,923	1,703,861
United R. R. of New Jersey...	36,975	689,998	659,350
Pennsylvania Coal.....	33,863	467,552	494,078
Delaware and Hudson Canal..	69,093	1,291,364	1,440,561
Huntingdon and Broad Top Mountain.....	5,850	201,722	201,668
Penn. and New York.....	38,575	721,729	695,112
Clearfield, Pa.....	68,130	1,307,994	1,029,429

The total tonnage of anthracite coal from all the regions for the week ending June 10, as reported by the several carrying companies, amounted to 528,692 tons, against 344,933 tons in the corresponding week last year, an increase of 183,759 tons. The total amount of anthracite mined for the year is 10,717,019 tons, against 10,814,066 tons for the same period last year, a decrease of 95,047 tons. The quantity of bituminous coal sent to market for the week amounted to 81,081 tons, against 90,061 tons in the corresponding week last year, a decrease of 9,180 tons. The total amount of bituminous mined for the year is 1,958,322 tons, against 2,084,633 tons for the corresponding period last year, a decrease of 126,401 tons. The total tonnage of all kinds of coal for the week is 609,773 tons, against 435,194 tons in corresponding week last year, an increase of 174,579 tons, and the total tonnage for the coal year is 12,677,251 tons, against 12,898,699 tons to same date last year, a decrease of 221,448 tons. The quantity of coal and coke carried over the Pennsylvania Railroad for the week ending June 3d was 197,265 tons, of which 146,550 tons were coal and 50,315 tons coke. The total tonnage for the year thus far has been 4,661,728 tons, of which 3,352,653 tons were coal and 1,309,075 tons coke. These figures embrace all the coal and coke carried over the road, east and west. For the week ended Saturday, June 10, there were 7,539 tons of coal shipped from the Cumberland coal region, of which 1,183 tons were shipped by the Consolidation Coal Company, 882 tons by the Piedmont Coal and Iron Company, and 5,472 tons from the Elk Garden region. The aggregate for the year is 505,389 tons. The decrease compared with 1881 is 33,096 tons for the week and 10,028 tons for the present year. The Reading Railroad shipment for last week, ending June 17, was about 178,000 tons, of which 43,000 tons were sent to and 52,000 tons shipped from Port Richmond, and 16,000 tons sent to and 15,800 shipped from Elizabethport.—*Philadelphia Ledger*, June 19.

HENRY FINK, vice-president and general manager of the Norfolk and Western Railroad, and East Tennessee, Virginia and Georgia Railroad, has been appointed general manager of the Shenandoah Valley Railroad, with office at Lynchburg, Va. Major Fink assumed the duties of the position on the 19th inst., simultaneously with the completion of the Shenandoah Valley Railroad and the commencement of through business in connection with the East Tennessee, Virginia and Georgia.

THE Anne Arundel County (Md.) authorities have invited proposals, to be received at Annapolis, for the construction of the contemplated bridge over the Severn River, the right of way to cross the Government premises having been granted by Congress. The bridge is to be constructed of wood and iron, will be about 1,825 feet in length, and is to be located from a point near Meadow Bar, on the Annapolis side, to Brice's Point on the north side of Severn.

RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus (*) are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.	Marked thus (*) are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.	Marked thus (*) are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.
Albany and Susq.* 100	2,500,000	semi-an	July '82 2	Little Miami..... 50	4,637,300	q'terly	June '82 2	Ware River..... 100	750,000	semi-an	Jan. '82 3 1/2
Ashuelot..... 100	210,000	q'terly	Oct. '81 3 1/2	Little Rock & Ft. S. 100	4,096,135	.....	July '81 10 1/2	Warren (N. J.)..... 100	1,800,000	semi-an	Apl. '82 3 1/2
Atch., Top. and S. Feo 100	54,000,000	q'terly	May '82 1 1/2	Little Schuylkill... 50	2,646,100	semi-an	Jan. '82 3 1/2	Warwick Valley..... 100	340,000	semi-an	Jan. '82 2 1/2
Atlanta and W. Point 100	1,232,200	semi-an	Jan. '82 6	Louisville & Nashv. 100	19,130,913	semi-an	Feb. '82 3	Westchester & Phil. pref 100	821,300	semi-an	July '82 2
Atlanta and St. Law* 100	5,840,000	semi-an	Mar. '82 3	Lowell & Andover... 100	500,000	semi-an	Jan. '82 3 1/2	West Jersey..... 100	1,359,750	semi-an	Apl. '83 3 1/2
Augusta and Savan* 100	1,022,900	semi-an	June '81 3 1/2	Lykens Valley..... 100	600,000	q'terly	Oct. '81 2 1/2	Wilmington & Weldon 100	1,450,200	semi-an	Dec. '81 3
Avon, Genesee & M' 100	225,000	semi-an	July '81 3	Manchester & Law... 100	1,000,000	semi-an	May '82 5	Wil., Col., & Aug. 100	960,000	semi-an	Dec. '81 3
Baltimore and Ohio 100	14,792,566	semi-an	May '82 5	Manhattan..... 100	13,000,000	.....	.....	Winchester & Poto'c.* 100	180,000	semi-an	Jan. '82 3
" " pref. 100	5,000,000	semi-an	July '82 3	" " 1st pref. 100	6,500,000	q'terly	July '82 1 1/2	Winchester & Strasb.* 100	74,700	semi-an	Jan. '82 3
Washington Br..... 100	1,550,000	semi-an	Apl. '82 5	" " 2d pref. 100	6,500,000	q'terly	July '82 1 1/2	Worcester & Nashua. 75	1,769,800	semi-an	Jan. '82 1 1/2
Berkshire..... 100	600,000	q'terly	Apl. '82 1 1/2	Marietta & Cincinnati 50	1,386,350	.....	.....	HORSE-POWER R. R.			
Boston and Albany... 100	20,000,000	q'terly	June '82 2	" " 1st pref. 50	8,105,600	semi-an	Sep. '66 3 1/2	Albany City..... 100	200,000	annual	..... '80 5 1/2
Bos. & N. Y. Air Line pf. 100	2,795,227	q'terly	June '82 1	" " 2d pref. 50	4,440,000	semi-an	Sep. '66 3 1/2	Baltimore City..... 25	1,000,000	semi-an	July '82 3
Bos., Cl. F. & N. B. pref. 100	1,750,100	.....	Apl. '82 3 1/2	Marq. Hout. & Ont. pf. 100	2,259,026	.....	Feb. '82 4	Balt., Cat. & M. Mills. 100	.....	semi-an	Jan. '82 2
Bos., Cono. & Mont. pf. 100	800,000	semi-an	May '82 3	Massachusetts..... 100	400,000	semi-an	Feb. '82 3	Bleecker St. & Ful. Fy. 100	900,000	semi-an	July '81 1 1/2
Boston and Lowell... 500	3,940,000	semi-an	July '82 2	Michigan Central..... 100	18,738,204	q'terly	Aug. '81 1	Boston & Chelsea pref. 50	110,000	semi-an	Apl. '82 3
Boston and Maine..... 100	6,921,274	semi-an	May '82 4	Middlesex Central... 100	280,000	semi-an	Feb. '82 3	Broadway (Brooklyn) 100	250,000	q'terly	Oct. '81 2
Boston & Providence 100	4,000,000	semi-an	May '82 4	Mill Creek & Minehill* 50	323,000	semi-an	Jan. '82 5	B'way & 7th Av. (N. Y.) 100	2,100,000	q'terly	Oct. '81 2
Attleborough Br... 100	131,700	semi-an	Jan. '82 3 1/2	M. Hill & Schuyl. Hav.* 50	4,022,500	semi-an	Jan. '82 3 1/2	B'klyn & Hunter's Pt. 100	400,000	q'terly	Jan. '79 3
Bos. & Rev. B. & Lynn 100	919,000	semi-an	June '82 3 1/2	Missouri Pacific..... 100	28,169,800	q'terly	July '82 1 1/2	Brooklyn City..... 100	2,000,000	q'terly	Dec. '81 3 1/2
Buffalo, N. Y. & Erie* 100	450,000	semi-an	June '82 3	Mobile & Montgomery 100	3,022,517	semi-an	Feb. '80 2 1/2	Bushwick (Brooklyn) 100	300,000	semi-an	July '81 2 1/2
Camden & Atlantic... 50	377,400	q'terly	Apl. '80 3 1/2	Mont. & Wells River 100	800,000	annual	Feb. '80 2	Cambridge..... 100	908,000	q'terly	Apl. '82 4 1/2
" " pref. 50	880,650	q'terly	Apl. '80 3 1/2	Morris and Essex... 50	15,000,000	semi-an	July '82 3 1/2	Can. Park. N. & E. Riv. 100	1,800,000	q'terly	Jan. '82 2
Camden & Burl. Co. 100	381,925	semi-an	July '82 4	Mt Carbon & Pt Carbon 50	282,350	semi-an	Jan. '82 6	Christoph'r & Tenth St 100	650,000	semi-an	Aug. '81 2 1/2
Canada Southern..... 100	15,000,000	.....	Feb. '81 2 1/2	Nashua and Lowell... 100	800,000	semi-an	May '82 4	Citizens' (Phil.)..... 50	192,500	q'terly	Jan. '82 2 1/2
Cape May & Millville* 50	447,000	semi-an	Oct. '81 1 1/2	Nashua & Rochester 100	1,305,800	semi-an	Apl. '82 1 1/2	Citizens' (Pbg.)..... 50	200,000	annual	..... '80 14 1/2
Catawissa..... 50	1,159,500	annual	Oct. '81 1 1/2	Nashv. & Decatur... 100	1,827,000	semi-an	June '81 3	Coney Island & Bklyn 100	500,000	semi-an	Oct. '82 5
" " pref. 50	2,200,000	semi-an	May '82 3 1/2	Nashv. Chat. & St. Louis 50	6,670,325	semi-an	Jan. '82 1 1/2	Continental (Phil.)... 50	580,000	semi-an	July '82 6
Cayuga and Susq.* 50	569,110	semi-an	July '81 4 1/2	Naugatuck..... 100	2,000,000	semi-an	Jan. '82 5	D. Dock, E. B'way & Batco 100	1,800,000	q'terly	Nov. '81 4
Cedar Rapids & Mo. R. 100	6,850,400	q'terly	May '82 1 1/2	Nequehoning Val'y* 50	1,300,000	semi-an	Mar. '82 3	Eight Av. (N. Y.)... 100	1,000,000	q'terly	Oct. '81 3
" " pref. 100	769,600	semi-an	Feb. '82 3 1/2	N. Castle & Beaver Val' 50	600,000	q'terly	Oct. '81 1	42d St. & G. St. Ferry 100	747,000	semi-an	Nov. '81 6
Central of Georgia... 100	7,500,000	semi-an	June '82 4	New London North N* 100	1,500,000	q'terly	July '82 1 1/2	Frankf. & Southw (Ph) 50	600,000	q'terly	Jan. '82 6
Central of New Jersey 100	18,503,200	q'terly	July '76 2 1/2	N. Y. Cen. & Hud. R. 100	89,428,330	q'terly	July '82 4	Germantown, (Ph.)... 50	457,800	q'terly	Apl. '82 4 1/2
Central Ohio..... 100	2,437,950	semi-an	Jan. '82 3	N. Y. and Harlem..... 100	7,950,000	q'terly	July '82 4	Girard College (Ph.)... 50	500,000	semi-an	July '71 3
" " pref. 50	411,550	semi-an	Jan. '82 3	" " City Line..... 100	1,500,000	q'terly	July '82 4	Grand St. & Newton 100	170,091	semi-an	July '81 2 1/2
Central Pacific..... 100	59,275,500	semi-an	Feb. '82 3	N. Y. Lake Erie & West. 100	77,083,900	.....	.....	Green & Coates St. (Ph) 50	150,000	q'terly	Apl. '82 3
Chemung..... 100	380,000	q'terly	July '81 1 1/2	" " pref. 100	8,156,825	.....	Jan. '82 6	Hoston, Mantauk & F. m 50	299,381	semi-an	Jan. '82 4
Cheshire preferred... 100	2,155,300	semi-an	Jan. '82 1 1/2	N. Y., N. H. & Hart... 100	15,500,000	semi-an	Jan. '82 5	Highland..... 100	600,000	semi-an	Jan. '82 4
Chicago and Alton... 100	11,181,741	semi-an	Mar. '82 4	N. Y., Prov. & Boston 100	3,000,000	q'terly	May '82 2	Lomb. & South Sts (Ph) 25	195,000	semi-an	Oct. '75 4
" " pref. 100	2,245,400	semi-an	Mar. '82 4	Niag. Bridge & Canand* 100	1,000,000	semi-an	July '81 3	Lynn and Boston..... 100	200,000	semi-an	May '82 4
Chi., Burl. & Quincy 100	55,337,455	q'terly	June '82 2	North Carolina..... 100	3,000,000	semi-an	Sep. '81 3	Malden and Melrose... 100	165,000	.....	.....
Chi., Iowa & Nebras* 100	3,916,200	semi-an	July '82 2	" " pref. 100	1,000,000	semi-an	Sep. '81 3	Metropolitan (Bost.)... 50	1,500,000	semi-an	Jan. '82 4
Chi., Mil. & St. Paul 100	20,404,261	semi-an	Apl. '82 3 1/2	N. Eastern (S. C.) pref 100	86,000	semi-an	May '81 4	Middlesex (Boston).... 50	650,000	semi-an	May '82 3 1/2
" " pref. 100	14,401,483	semi-an	Apl. '82 3 1/2	Norfolk & Western pref 100	15,000,000	q'terly	June '82 3 1/2	N. X. Bay Ridge & Jam 100	150,000	.....	Oct. '78 7
Chi. & N. Western... 100	14,988,257	semi-an	June '82 3 1/2	North Pennsylvania... 50	4,527,150	q'terly	May '82 1 1/2	Ninth Av. (N. Y.)... 100	797,320	.....	.....
" " pref. 100	21,525,353	q'terly	June '82 2	Northern Central... 50	6,142,000	semi-an	Jan. '82 3	Orange & Newark..... 100	282,555	.....	.....
Chi., R. I. & Pacific... 100	41,660,000	q'terly	May '82 1 1/2	Northern N. Hampsh... 100	3,068,400	semi-an	June '82 3	People's (Phila.)..... 25	424,744	semi-an	Jan. '82 2
Chi. and West Mich. 100	6,151,000	semi-an	Feb. '82 2 1/2	Northern N. Jersey* 100	1,000,000	semi-an	July '80 2 1/2	Philadelphia City..... 25	127,500	semi-an	Jan. '82 5
Chi., St. P. M. & O. pref 100	10,390,000	q'terly	July '82 1 1/2	Norwich & Worcester* 100	2,604,400	semi-an	Jan. '82 5	Phila. and Darby.... 20	200,000	semi-an	July '81 3 1/2
C. Ind., St. L. & Chi. 100	6,000,000	q'terly	Apl. '82 1 1/2	Ohio..... 100	18,500,000	.....	.....	Phila. & Grey's Ferry... 20	308,000	semi-an	Jan. '82 6
Cin., Sand. & Clev. pf. 50	429,037	semi-an	May '82 3	Ohio and Miss. pref. 100	4,030,000	semi-an	Mar. '75 3 1/2	Pbg. Alleg. & Manches. 50	300,000	q'terly	Oct. '81 3
Clev. and Mahoning* 50	37,590,200	semi-an	Nov. '81 3 1/2	Old Colony..... 100	7,333,800	semi-an	July '82 3 1/2	Ridge Avenue (Ph.)... 50	420,000	semi-an	Oct. '81 11
Clev. and Pittsburg* 50	11,244,336	q'terly	June '82 1 1/2	Oregon & Wya. Nav. 100	6,000,000	q'terly	May '82 2	Second Avenue (N. Y.) 100	1,199,500	semi-an	July '81 2 1/2
Columbus & Xenia... 100	1,865,200	q'terly	June '82 2	Oswego & Syracuse... 100	1,320,400	semi-an	Aug. '81 4 1/2	Second & Third St. (Ph) 50	771,076	q'terly	Jan. '82 4 1/2
Colum. & Hooking Val. 100	2,500,000	semi-an	Aug. '81 20 1/2	Panama..... 100	7,000,000	.....	July '82 6 1/2	17th & 19th sts (Ph.) 50	250,000	semi-an	July '81 3
Concord..... 50	1,500,000	semi-an	May '82 5	Paterson & Hudson* 100	630,000	semi-an	Jan. '82 4	Sixth Avenue (N. Y.) 100	750,000	semi-an	Oct. '81 5
Concord and Ports* 100	350,000	semi-an	Jan. '82 3 1/2	Paterson & Ramapo... 100	248,000	semi-an	Jan. '82 4	Somerville (Boston) 100	113,000	semi-an	May '82 3
Conn. & Passump. Riv. 100	2,244,400	semi-an	Feb. '82 3	Pemb. & Hightst N* 50	342,150	semi-an	Jan. '82 3	South Boston..... 100	600,000	semi-an	Jan. '82 4
Connecticut River... 100	2,100,000	semi-an	July '82 4	Pennsylvania..... 50	77,072,750	semi-an	May '82 4	Third Avenue, N. Y. 100	2,000,000	q'terly	Nov. '81 5
Camberland Valley... 50	1,292,950	q'terly	Apl. '82 2 1/2	Pennsylvania Co..... 50	20,000,000	semi-an	June '81 2 1/2	13th and 15th sts., Ph 50	334,529	q'terly	Jan. '82 4
" " 1st pref. 50	241,900	semi-an	Apl. '82 4	Peoria & Bureau Val' 100	1,300,000	semi-an	Feb. '82 4	23d street, N. Y. 100	600,000	semi-an	Aug. '81 4
" " 2d pref. 50	243,000	semi-an	Apl. '82 4	Philadelphia & Erie* 50	7,013,700	semi-an	.....	Union, Boston..... 100	374,300	semi-an	Jan. '82 4
Danbury & Norwalk... 50	600,000	.....	Apl. '82 1 1/2	" " pf 50	2,400,000	semi-an	Jan. '75 4	Union, Phila..... 50	1,005,000	semi-an	Jan. '82 7
Dayton and Mich.* 50	2,402,573	semi-an	Oct. '81 2	Phil. Ger. & Norrist* 50	2,231,900	q'terly	June '82 3	West Philadelphia... 50	750,000	semi-an	July '77 10
" " pref. 50	1,211,250	q'terly	Oct. '81 2	Phil. and Reading... 50	32,726,375	q'terly	Jan. '76 2 1/2	CANALS.			
Delaware..... 25	1,468,940	q'terly	Jan. '82 3	" " pref. 50	1,551,800	q'terly	July '76 3 1/2	Chesapeake and Dela 50	2,078,038	semi-an	June '75 2
Del. & Bound Brook 100	1,652,000	q'terly	May '82 1 1/2	Phila. and Trenton... 100	1,250,100	q'terly	Apl. '82 2 1/2	Delaware Division... 50	1,633,350	semi-an	Feb. '82 1
Del., Lack. & Western 50	26,000,000	q'terly	July '82 2	Phila., Wil. and Balt. 50	11,585,750	semi-an	July '82 4	Delaware and Hudson 100	20,000,000	q'terly	June '81 1 1/2
Denver & Rio Grande 100	29,160,000	q'terly	Jan. '82 1 1/2	Pittab., Ft. W. & Chi.* 100	19,714,285	q'terly	Apl. '82 1 1/2	Delaware & Baritan* 100	5,847,400	q'terly	Apl. '82 2 1/2
Den., South P. & Pac. 100	3,500,000	.....	Aug. '80 4	" " Special Imp. 100	6,770,900	q'terly	Apl. '82 1 1/2	Lehigh Coal and Nav 50	11,204,250	semi-an	June '82 2
Detroit, Lans. & Nor. 100	1,825,600	semi-an	Aug. '80 2 1/2	Pittsfield & N. Adams. 100	450,000	semi-an	Jan. '82 2 1/2	Monongahela Nav... 50	1,004,500	semi-an	July '81 2
" " pref. 100	2,503,380	semi-an	Feb. '82 3 1/2	Portl., Saco & Portsmouth 100	1,500,000	semi-an	Jan. '82 3	Morris, consolidated 100	1,025,000	semi-an	Feb. '81 5
Dubuque & Sioux C'y* 100	5,000,000	semi-an	Apl. '82 3	Providence & Worces. 100	2,000,000	semi-an	July '82 3	" " preferred..... 100	1,175,000	semi-an	Feb. '81 5
East Pennsylvania* 50	1,709,550	semi-an	Jan. '82 3	Rensselaer & Saratog. 100	7,000,000	semi-an	Jan. '82 4	Pennsylvania..... 50	4,501,200	.....	.....
Eastern (N. H.)..... 100	392,950	semi-an	Jan. '82 3	Rhode Island & Mass. 100	100,000	.....	Jan. '81 3	Schuyl. Nav., com.* 50	859,100	annual	Aug. '81 50 1/2
El River..... 100	492,500	semi-an	June '82 2 1/2	Richmond & Danv... 100	3,866,000	q'terly	May '82 2	" " pref. 50	3,200,000	annual	Aug. '81 5 1/2
Elmira, Jelf. & Canand* 100	500,000	q'terly	June '82 1 1/2	Richmond & Petersb. 100	1,009,300	semi-an	Jan. '81 3	MISCELLANEOUS.			
Elmira & Westcamp* 100	500,000	annual	Sep. '80 5	Roch. & Genesee Val.* 100	555,200	semi-an	Jan. '82 3	Adams Express..... 50	12,000,000	q'terly	June '82 2
" " pref. 50	500,000	semi-an	May '82 1 1/2	Rome, Waterl. & Ogd. 100	529,900	semi-an	July '75 1 1/2	American Express... 50</			

RAILROAD EARNINGS—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
BURL., CEDAR RAP. & NORTHERN:													
1880.....	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881.....	167,750	124,510	148,551	184,680	105,630	205,912	174,351	209,112	221,801	221,798	203,880	232,812	2,259,037
1882.....	252,823	225,631	224,107	178,304	199,278	.....	.....	.....	.....	.....	.....	.....	.....
CENTRAL PACIFIC:													
1880.....	1,200,614	1,070,487	1,373,438	1,356,716	1,778,488	1,724,950	1,840,067	1,973,438	1,964,997	1,120,229	2,199,466	1,905,221	20,508,112
1881.....	1,602,907	1,454,218	1,709,037	1,872,370	2,091,410	2,063,000	1,859,000	2,059,000	2,293,000	2,514,000	2,267,000	2,110,000	23,947,951
1882.....	1,876,000	1,702,000	1,987,000	2,052,000	2,353,000	.....	.....	.....	.....	.....	.....	.....	.....
CLEVELAND AND OHIO:													
1880.....	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,000	2,674,308
1881.....	162,540	184,389	222,479	227,343	252,235	241,135	228,096	262,858	247,144	237,303	235,585	218,000	2,702,762
1882.....	210,455	209,708	208,981	207,454	255,939	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO AND ALTON:													
1880.....	534,054	497,013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1881.....	487,890	401,641	529,915	558,190	548,556	616,935	671,466	771,466	768,897	750,359	680,133	635,307	7,553,988
1882.....	579,447	530,480	584,483	561,787	553,412	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO AND NORTHWESTERN:													
1880.....	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,671,177	1,699,686	1,767,938	2,020,245	2,105,217	1,855,671	1,477,902	19,416,007
1881.....	1,240,607	963,208	1,178,795	1,474,612	1,879,006	2,306,640	1,983,031	2,315,164	2,292,676	2,341,097	2,019,037	1,855,476	21,849,209
1882.....	1,690,336	1,471,945	1,696,568	1,634,819	2,058,133	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO, BURLINGTON AND QUINCY:													
1880.....	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881.....	1,307,948	1,034,821	1,418,149	1,574,371	1,679,455	2,083,803	1,888,558	2,173,945	2,262,981	2,031,001	1,816,133	1,905,490	21,324,150
1882.....	1,658,834	1,457,300	1,566,217	1,530,838	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO, MILWAUKEE AND ST. PAUL:													
1880.....	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1,397,308	13,086,119
1881.....	990,847	682,717	916,989	1,259,946	1,538,491	1,371,000	1,560,000	1,678,000	1,645,000	1,590,000	1,509,000	1,855,000	17,025,462
1882.....	1,435,000	1,377,000	1,561,000	1,518,000	1,629,000	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA:													
1880.....	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,007
1881.....	257,786	158,594	251,648	261,211	354,124	404,562	392,702	385,586	363,685	382,714	380,733	391,950	3,981,296
1882.....	307,498	315,100	405,779	356,558	406,420	.....	.....	.....	.....	.....	.....	.....	.....
CINCINNATI, INDIANAPOLIS, ST. LOUIS AND CHICAGO:													
1880.....	155,697	172,541	198,220	168,199	186,995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881.....	182,523	171,511	191,005	183,710	191,056	188,256	178,861	229,858	219,977	212,606	194,805	192,623	2,266,916
1882.....	200,042	186,879	208,066	204,269	199,110	.....	.....	.....	.....	.....	.....	.....	.....
DENVER AND RIO GRANDE:													
1880.....	124,759	126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881.....	307,476	317,681	398,493	433,111	514,767	584,230	548,284	606,193	620,643	665,686	566,819	643,417	6,206,812
1882.....	491,914	412,987	535,055	559,917	614,298	.....	.....	.....	.....	.....	.....	.....	.....
HANDBAL AND ST. JOSEPH:													
1880.....	176,079	166,965	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,391
1881.....	154,401	122,874	176,356	190,812	179,950	194,949	198,110	215,308	202,567	213,433	201,782	180,376	2,230,966
1882.....	138,284	154,717	168,798	148,913	154,917	.....	.....	.....	.....	.....	.....	.....	.....
ILLINOIS CENTRAL:													
1880.....	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673,182	8,304,812
1881.....	631,281	524,499	557,789	602,493	673,259	803,887	720,004	868,407	828,847	815,238	737,218	763,475	8,586,397
1882.....	728,173	689,387	695,371	674,003	674,749	.....	.....	.....	.....	.....	.....	.....	.....
INDIANA, BLOOMINGTON AND WESTERN:													
1880.....	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	96,621	104,619	1,233,079
1881.....	90,285	83,261	192,085	203,677	200,064	96,586	83,764	117,956	195,307	181,674	160,826	156,697	.....
1882.....	195,824	175,755	206,235	205,934	182,554	.....	.....	.....	.....	.....	.....	.....	.....
LOUISVILLE AND NASHVILLE:													
1880.....	674,455	575,035	612,593	563,883	655,014	976,220	772,537	827,088	931,910	1,000,326	953,086	949,184	9,491,346
1881.....	816,960	805,124	947,959	850,862	828,726	1,227,885	817,135	876,192	951,566	1,002,950	1,005,223	1,122,285	11,326,859
1882.....	950,065	960,036	1,073,745	950,007	946,435	.....	.....	.....	.....	.....	.....	.....	.....
MOBILE AND OHIO:													
1880.....	250,116	204,094	168,301	140,091	129,249	121,855	131,621	140,593	184,246	264,714	251,368	287,373	2,373,621
1881.....	224,347	216,768	230,916	163,551	145,803	136,517	131,009	159,348	209,044	252,921	252,434	262,095	2,406,437
1882.....	161,433	158,154	152,651	145,272	137,645	.....	.....	.....	.....	.....	.....	.....	.....
NASHVILLE, CHATTANOOGA AND ST. LOUIS:													
1880.....	205,633	191,154	169,457	155,466	158,839	144,155	151,594	160,326	167,473	178,266	182,087	175,996	2,049,448
1881.....	190,860	207,710	183,525	104,430	154,549	150,430	168,317	179,979	179,979	172,121	152,059	173,127	2,075,256
1882.....	156,994	159,961	161,005	154,155	137,645	.....	.....	.....	.....	.....	.....	.....	.....
NEW YORK AND NEW ENGLAND:													
1880.....	164,232	149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198,108	2,396,302
1881.....	189,749	173,014	212,019	216,913	217,185	231,518	246,821	280,524	299,573	261,199	242,412	237,729	2,809,255
1882.....	213,840	217,261	256,222	263,544	283,244	.....	.....	.....	.....	.....	.....	.....	.....
NEW YORK, LAKE ERIE AND WESTERN:													
1879.....	.....	1,147,173	1,207,391	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880.....	1,252,218	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	1,644,958	19,149,361
1881.....	1,443,437	1,425,765	1,847,261	1,709,057	1,776,891	1,794,982	1,776,891	1,776,891	1,776,891	1,776,891	1,776,891	1,776,891	.....
NORTHERN CENTRAL:													
1880.....	334,494	330,860	415,325	386,130	329,788	419,193	450,208	453,923	464,093	512,918	459,054	494,310	5,050,387
1881.....	386,157	382,657	452,906	487,273	465,588	487,287	440,811	498,008	429,565	449,664	467,160	476,622	5,443,697
1882.....	407,368	413,551	430,194	435,129	.....	.....	.....	.....	.....	.....	.....	.....	.....
NORTHERN PACIFIC:													
1880.....	81,390	77,259	119,357	185,700	217,613	253,105	241,277	223,500	330,300	358,456	300,822	220,993	2,629,710
1881.....	116,984	78,803	162,984	216,210	312,705	368,276	404,180	411,624	490,096	565,485	428,903	434,331	4,044,576
1882.....	239,800	269,000	384,000	438,000	568,332	.....	.....	.....	.....	.....	.....	.....	.....
PHILADELPHIA AND ERIE:													
1880.....	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	367,082	324,966	281,919	3,727,733
1881.....	224,303	225,501	285,573	293,323	343,792	350,585	291,669	303,849	276,522	292,392	284,078	282,772	3,454,309
1882.....	252,727	246,246	265,311	277,851	.....	.....	.....	.....	.....	.....	.....	.....	.....
ST. LOUIS AND SAN FRANCISCO:													
1880.....	198,091	195,948	193,146	176,164	167,664	173,607	213,297	259,995	280,873	328,194	290,329	226,063	2,698,371
1881.....	212,435	178,234	202,050	205,298	283,399	260,254	252,333						

Baker's New Patent Car Heater.

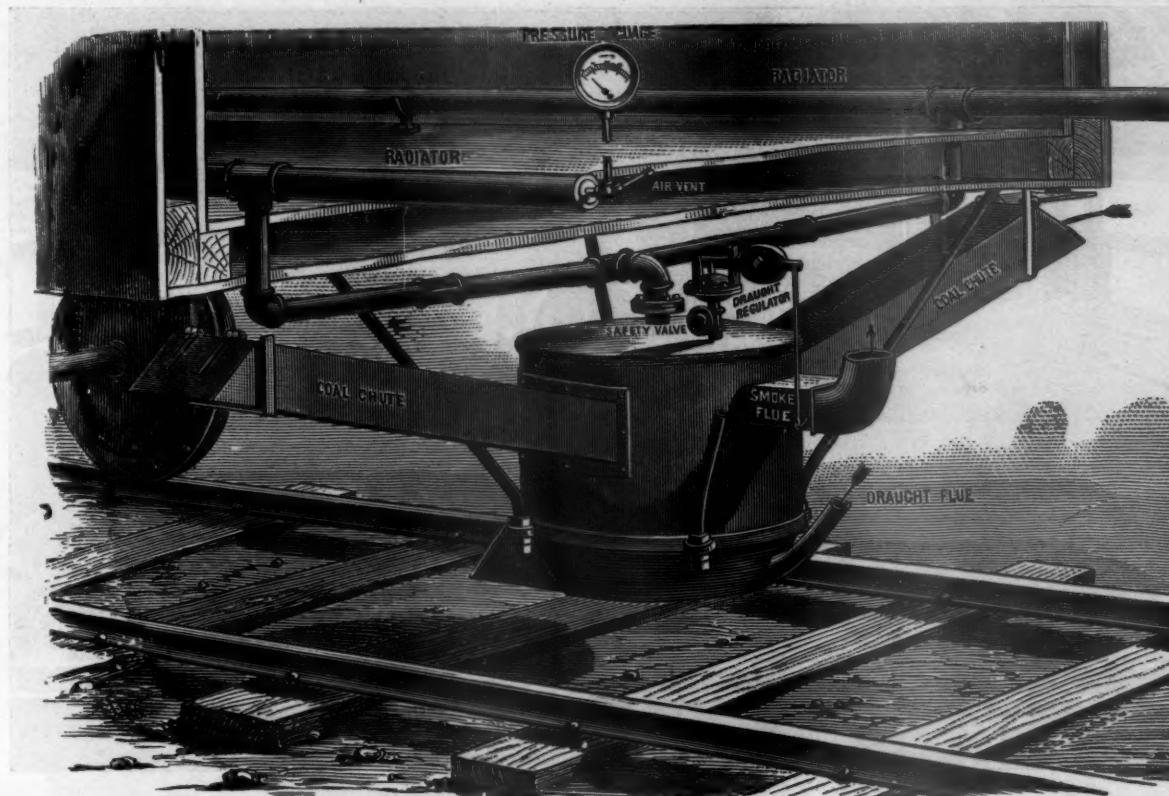
UPON no point connected with the safety and comfort of railroad passengers has there been more discussion of late than upon the methods of heating cars; and railroad officials and car builders have an important duty to perform before the coming of cold weather again, to meet the demands in this direction which their most frequent patrons and the public generally are forcibly making, and will continue to make with additional force, when the season for heated cars is at hand. The terrible scenes that have been experienced through the burning of cars in railroad accidents have created a feeling that must be heeded by all railroad officials who would re-establish confidence among the traveling public. The inconvenience which passengers have endured from smoky cars where stoves were used with their unsatisfactory attempts at heating, and

wholly from low pressure steam. It has been thoroughly tested under a great variety of conditions during the past year on several cars of the New York Central and Hudson River Railroad Company, which company is said to have adopted it, and which company also, it may be remarked, had about as good reasons for aiming to have their cars provided with the best possible safeguards as any railroad could have, after its shocking and disgraceful experience of last winter. Other roads have ordered the new Baker heater on their entire equipment of passenger cars, and it certainly looks as though the demands of the public were likely to be well satisfied in this important matter.

We give below an illustration of the new car heater, showing the parts of the apparatus which are placed outside of the car; and the general features of the heater are described as follows:—

The boiler encased, is about 2½ feet in di-

the cellar of the car, as shown, and operates substantially the same as the domestic steam heater placed in the cellar of a dwelling. The ash-pan, with the fire grate resting upon it, is a separate piece of casting, and is screwed to the ring which supports the boiler, and, in case of an accident, would be the first to become detached, carrying with it the fire, the boiler remaining intact. The smoke pipe may be secreted from view in some closet or corner, thus avoiding even the suggestion of a heater or fire. The draft to the fire is through a small tube leading from the inside of the car, where a sliding cover may be moved to regulate the flow of air; but the main controller of the draft is an automatic regulator operating a damper in the under side of the throat of the smoke flue, opening and closing it at any given pressure, say from one-half of a pound to fifteen pounds. Even with the ash-pit door left open, it will check the draft by



their accompanying nuisances of dirt, cinders, unequal distribution of heat, and other objectionable features, will no longer be quietly submitted to since the dangers attending the use of these primitive heaters have been so terribly enforced upon their minds.

Steam has become the acceptable agent for car heating, and its appliances are now being so perfected that it would seem that the danger has been reduced to a minimum, while the comfort of passengers has been vastly enhanced and at the same time a way for great saving in fuel and room afforded to the railroads. The Baker Car Heater Company, of 92 Liberty street, New York, and Pittsburgh, Pa., who have done much in the past toward securing perfection in methods for heating, have brought out a new patent car heater, the result of long study and experience, in which the fire is altogether outside of the cars, and the heat is

ameter; and, with the ash-pan, is about 2 feet high. The top is about 9 inches from the under side of the car body, and the bottom 9 inches above the top of the rails of the road. It is suspended by four stay rods, placed at proper bracing angles, and bolted through timbers fastened in the frame-work of the car. If it becomes necessary to remove the boiler for repairs or other purposes, the detaching of a single flanged steam joint, and removing the nuts from the bottom ends of the stay rods, are all that is required. The boiler is preferably located just back of the truck, so as not to interfere with the break and stay rods, air cylinders, etc. The "cow-catcher" of the locomotive being about three inches, and the break beams nine inches above the rails, there is no danger of even the lowest projection of the boiler (the ash pan), encountering any object in its course. The boiler is beneath, in

shutting off the fire, and letting cold air into the smoke flue at the same time. No dangerous pressure can accumulate. The boiler is capable of sustaining at least four times the amount of pressure that is ever carried. The draft to the fire is independent of any current caused either by the wind or the motion of the car. A simple pipe leading from the center of the boiler conducts the steam to the radiators. No water can lodge in them, as their inclination assures the return of the water to the boiler—the steam ascending and the water trickling back in the same pipe. At points in the car where extra heat is required, the radiator can be increased in size, or made double or triple to suit the case. In portions of the car where little or no heat is needed, the pipe may be packed and the heat deadened, to suit any requirement—this is one of the important claims of Mr. Baker's patent. By thorough

protection of the boiler and outside connections, the heater has stood the tests of the coldest weather, high winds, and heavy snow storms. Snow and icicles have hung for days and nights on every part of the boiler, coal shutters, etc., with the fire burning steadily, and the heat within the car evenly maintained at a temperature of 70 degrees. It does not require the attendant to get under the car more than once or twice within twenty-four hours, and then only for the purpose of raking the fire. The coal may be supplied from the outside, without loss of time, by the brakeman or station-man while standing upon the station platform. The grate can be cleared of clinkers, as well as ashes, without deadening the fire, as it has a double motion of rocking and dumping. The labor of lugging coal up the car steps, and through the car doors is avoided; and the accumulation of ashes and cinders is

opening in this casing between each seat (the center of each berth), to be closed when the berth is to be made up—thus shutting the heat from these points, and driving it into the four corners of the car—the only point where heat is wanted at night. But the exclusion of the fire, and its attendant evils, from the sleeping apartment, is of paramount consideration. A stove is not desirable in a bedroom, nor in a "parlor," or "drawing-room."

Postal Telegraph Company.

THE proposition to get telegraphing into the postal system of the country is rapidly taking shape. Mention has hitherto been made of the new telegraph company recently organized for that purpose. The *Chicago Times* has the following in reference to this organization:

"There has recently been organized in the

steel, which they claim resists the effects of rain and snow. Its conductivity to the mile is such as to reduce the time between Chicago and New York to equal that between New York and Boston by the present system. The first line, that between here and New York, is already some weeks under way, and it is expected to have the system in working order before January 1, 1883. It will only take in the larger cities on the way, but afterward touch all points, and eventually do a local trade. The letters are to be wired from one point to another, copied out by clerks at the latter place, and placed in the post-office, so as to make the mail service do the delivery. Business mail can therefore be sent at the close of the day's work in Chicago, and delivered by mail carriers in New York next morning. The company has an authorized capital of \$21,000,000, and the privilege of issuing an extra \$10,000,000



conveniently got rid of by dropping them on the track. With proper attention, say about three times within twenty-four hours, the fire need never go out. As a duplicate of each part of the apparatus, duly numbered, is always kept on hand, repairs can be easily and promptly made.

For sleeping, parlor and drawing-room cars the new heater affords peculiar advantages. We give an illustration of the interior of a sleeping-car showing the method of shutting off the heat from the berths. A single straight radiator is run the whole length of the cars on the truss plank (the same as in ordinary cars); the Pillow Boxes being moved outward a little for the purpose. The radiator is cased, leaving sufficient space for the free circulation of air, either from the inside or outside of the car, and is left open at both ends. There is an

East a company incorporated under the title of the "Postal Telegraph Company of New York," the design of which is to establish a system of trunk lines of telegraph between the large cities of the country for the transmission by telegraph of the mail of business firms at a much lower rate than is charged by the present telegraph companies. The idea was broached some time ago, but the perfection of the plans and the organization of the company have been kept somewhat close. The incorporators claim to be able to send long letters of any description over the proposed wires at very much less than the present rates. They also claim that their business will not be delayed by the weather or any such cause. To prove this, they bring forward the wire now being manufactured by their own company at Ansonia, Conn., which is a compound wire, composed of copper in

worth of bonds. Of the capital, \$700,000 has already been subscribed, and bonds will be issued as the work proceeds. Among those interested in the scheme are John B. Alley and ex-Collector Beard, of Boston; George D. Roberts and S. D. White, of New York; Governor Charles Foster and several of the latter's friends, of Ohio. The system of telegraphy used will be the 'harmonic,' invented by Prof. Elisha Gray, of Highland Park, Illinois."

By an ancient Anglo-Saxon law, which still remains in force, it is enacted, "Albeit as often as Leape Yeare dothe occurre, the woman holdeth prerogative over the menne in matter of courtship, love and matrimonie; soe that when the ladie proposeth, it shall not be lawfull for menne to say her nae, but shall receive her proposal in all good courtesie."

ADVERTISE

—IN THE—

American Railroad Journal.

ESTABLISHED 1821.

We give below a few extracts from opinions of the press:—

From "Herapath's Railway Journal," London.
The AMERICAN RAILROAD JOURNAL one of the most honest and outspoken of American papers.

From the "Journal of Commerce," New York.
The AMERICAN RAILROAD JOURNAL a most valuable weekly newspaper. Is now half a century old.

From the "Cincinnati Price Current."
The AMERICAN RAILROAD JOURNAL's list of patrons is composed largely of the oldest and heaviest financial houses in the United States Great Britain and the Continent, and of railway companies, manufacturing establishments and banking and commercial houses in this country.

From the "Pittsburg Pa. Chronicle."
The AMERICAN RAILROAD JOURNAL is authority on railroad news.

From the "Washington [D. C.] Law Reporter."
The AMERICAN RAILROAD JOURNAL is a most valuable publication; and to all persons interested in American railroads, earnings, dividends, etc., etc., it is almost invaluable.

ENGINEERS, Mechanics, Mill Owners, Builders, Manufacturers, Miners, Merchants, etc. will find in MOORE'S UNIVERSAL ASSISTANT AND COMPLETE MECHANIC, a work containing 1016 pages, 500 Engravings, 461 Tables, and over 1,000,000 Industrial Facts, Calculations, Processes, Secrets, Rules, etc., of rare utility in 200 Trades. A \$5 book free by mail for \$2.50, worth its weight in gold to any Mechanic, Farmer or Business Man. Agents Wanted. Sure sale everywhere for all time. For Illustrated Contents Pamphlet, terms, and Catalogue of 500 Practical Books, address NATIONAL BOOK COMPANY, 73 Beekman Street, New York.

Popular! Pleasant! Profitable!

AMATEUR PHOTOGRAPHY IN EASY LESSONS.

Read "How to Make Pictures." Fifty Cents per Copy.

Outfits from Ten Dollars Upwards.

Guaranteed to produce Pictures of Highest Excellence.



Descriptive Price-Lists Sent Free upon Application.

AMATEUR OUTFITS & PHOTOGRAPHIC SUPPLIES.

Scovill Mfg. Co.,—Estab. 1802,—419 and 421 Broome St., N. Y. W. IRVING ADAMS, Agent.

BUSINESS CARDS.

ALLEN PAPER CAR WHEEL CO., 240 BROADWAY, New York.

BROWN BROTHERS & CO., BANKERS AND BROKERS, 59 Wall Street, N. Y.

BABCOCK & WILCOX CO., WATER TUBE STEAM Boilers, 30 Cortlandt Street, N. Y.

BROWN MANUFACTURING CO., ABSORBENT Wiper Cloths, Providence, R. I.

BEARDSLEY, D. N. & CO., MANUFACTURERS OF Superior Oak and Chestnut Lumber, and Railroad Ties, 9 Murray Street, N. Y.

CHESTER STEEL CASTING CO., MANUFACTURE Steel Castings, Cross-heads, Rocker-arms, Piston-heads, etc., for Locomotives, 407 Library St., Phila., Pa.

DAVIDS, JOHN B. & CO., WRITING INKS, 124 William Street, N. Y.

DAVIS, JOHN H. & CO., BANKERS AND BROKERS, 17 Wall Street, N. Y.

DODGE & SINCLAIR, MANUFACTURERS OF Rubber and Leather Belting, 21 Park Row, N. Y.

EVANS, GEO. A. IRON AND STEEL RAILS, 74 WALL Street, N. Y.

EAGLE TUBE CO., BOILER TUBES, 614 to 626 WEST Twenty-fourth Street, N. Y.

EAMES VACUUM BRAKE CO., RAILWAY TRAIN Brakes, 15 Gold Street, N. Y.

FAIRBANKS & CO., STANDARD SCALES, RAILROAD and Warehouse Trucks, and Copying-presses, 311 Broadway N. Y.

GORDON & DUGGAN, RAILWAY SWITCHES, 28 State Street, Boston, Mass.

GUEST, WM. A. & CO., IRON AND STEEL RAILS, 41 and 43 Pine Street, N. Y.

GEORGE, EVAN P. JR., COUNSELLOR AT LAW AND Solicitor of Patents, 4 and 6 Warren Street, N. Y.

HARLAN & HOLLINGSWORTH CO., MANUFACTURE Passenger Cars, Wilmington, Del.

HAYWARD, S. F. GENERAL AGENT BABCOCK Fire Extinguisher, 407 Broadway, N. Y.

IVISON, BLAKEMAN, TAYLOR & CO., STEEL PENS 753 and 755 Broadway, N. Y.

JOHN STEPHENSON CO., TRAM-CAR BUILDERS, New York.

KALATYP ENGRAVING CO., 104 FULTON ST., New York.

KNOX & SHAIN, MANUFACTURERS OF ENGINEERING and Telegraphic Instruments, 716 Chestnut Street, Philadelphia, Pa.

MOLLER & SCHUMANN, MANUFACTURERS OF Coach and Car Varnishes, Brooklyn, N. Y.

NATIONAL TUBE WORKS CO., MANUFACTURE Wrought Iron Pipes and Tubes, 104 and 106 John Street, N. Y.

PARDEE CAR WORKS, PARDEE, SNYDER & CO., (Limited) Watertown, Pa.

PERKINS & CHOATE, AGENTS FOR STEEL OR IRON Rails, 23 Nassau Street, N. Y.

RIEHL BROS., STANDARD SCALES AND TESTING Machines, 115 Liberty Street, N. Y.

SHUGG BROS., DESIGNERS AND ENGRAVERS ON Wood and Photo-Engravers, 18 Cortlandt St., N. Y.

SWIFTS IRON AND STEEL WORKS, MANUFACTURERS of all Weights of Standard and Narrow Gauge Rails, 26 West Third St., Cincinnati, Ohio.

THE PHOTO-ELECTROTYPE ENGRAVING CO., ENgravings for Books, Newspapers, Catalogues, etc. 20 Cliff Street, N. Y.

UNITED STATES MINERAL WOOL COMPANY, 16 Cortlandt Street, N. Y.

VANDEBILT & HOPKINS, RAILROAD TIES, 120 Liberty Street, N. Y.

VALENTINE & CO., MANUFACTURERS OF FINE Coach and Car Varnishes, 333 Pearl Street, N. Y.

WOOD, GEO. R., IRON AND RAILWAY BUSINESS, 19 William Street, N. Y.

WARTON RAILROAD SWITCH CO., SAFETY RAILroad Switches, 28 South Third Street, Philadelphia, Pa.

CORRESPONDENCE.

[We pay no attention to communications unless the name and address of the writer are given, though the same will not be published if so requested. We assume no responsibility for statements made by correspondents, and we do not necessarily endorse ideas advanced by them. Under these conditions we think it of value to our readers to devote a liberal space to the free discussion by others—whose opinions may be at variance with our own—of subjects pertinent to our department of journalism.]

A Railroad Sanitary Service.

Editor AMERICAN RAILROAD JOURNAL:

In a previous communication, I spoke of the advantages of a surgical and medical service to railroad companies. I now desire to urge the higher importance of a sanitary service, for the purpose of preventing those occurrences which would necessitate medical and surgical relief. Preventive medicine is still in its early infancy, and a child of so unpretending growth that the majority of the great public who are already aware of its existence still question the legitimacy of its birth, and even its right to live. But, on reflecting that curative medicine has had precedence of sanitation for more than twenty centuries, we ought to feel greatly encouraged at the appreciation which the latter has lately won among the leading minds of the civilized world.

Though it is apparent that the progress of the latter is, partially at least, at the expense of the former, we find that the cultivation of sanitary science has been chiefly pursued by the very class of men whose occupations would be most diminished by its progress. This paradox may be explained by the sound principle, recognized by intelligent people, that no legitimate occupation can permanently prosper under circumstances depressing to all others; and physicians clearly see that an undue amount of sickness so diminishes the public wealth as to leave little for the support of a class who can never refuse relief to the distressed and needy, while in a state of general prosperity medical relief is freely sought and fairly remunerated.

Railroad sanitation has for its object the prevention of various untoward occurrences destructive to life, health and property, only one feature of which can now be noticed. It is unquestionably of the highest importance that trainmen (engineers, firemen, conductors and brakemen) and signal-men should have unimpeachable eyesight and hearing, and such integrity of the vital organs as to run no risk of sudden break-down at the post of duty. Investigation of railroad accidents has been so conducted that it is impossible to say what proportion could be traced to physical defects of employes, but it is approximately known what proportion of men labor under infirmities which should disqualify them entirely for responsible positions connected with the movement of trains. Color blindness affects about 4 per cent of men, but the late compulsory examination in Connecticut disclosed a lower percentage among engineers, indicating that some of them had been weeded out for being incorrigibly unlucky. Recent examinations on the Pennsylvania Railroad show a percentage of

17½ deficient in the full acuteness of vision and nearly 2 per cent defective in hearing.

The examiner-in-chief does not state what proportion of these individuals were near-sighted, but probably it was a large one. This defect, though now rather eclipsed by color-blindness, must be a more serious disqualification than the latter. A near-sighted engineer can not distinguish danger ahead far enough to stop his train in time to prevent a disaster. He can not wear glasses, for a puff of steam in the face would make them opaque; so he must conceal his defect, if indeed he is aware of it, and blunder on in recklessness or terror, until repeated accidents eliminate him from service.

The late Dr. C. B. White, of this city, himself near-sighted, was of the opinion that the failure of some engine-drivers to keep the schedule time of fast trains may be due to this defect. Such men must feel like an engineer running at night without a head-light, and must be in a frame of mind unsuitable to a grave responsibility. While the color-blind person is at fault only when he has to determine the color of a signal, the near-sighted man is constantly at disadvantage, and is never safe when in rapid motion. Of course, if this defect exists in a high degree, the subject and those acquainted with him must be aware of it, and he would be regarded as disqualified for any position on a train, but, in a moderate degree, he would conceal it and make the best of the situation.

Sudden failure of the heart from organic diseases, paralysis from rupture of a cerebral artery, and epilepsy, in case of an engineer or signal-man, might cause a serious disaster. Such infirmities would be discovered by a careful medical examination, though the subject might not be aware of his situation, and the superintendent of the road certainly would not, in season to avert the consequences.

Our national government requires recruits for the army and navy to undergo strict medical examination before acceptance; it certainly seems that the duties of train and signal men are even more responsible, and that railroad managers ought to require even better physical qualifications for those employes who are entrusted with the lives and property of the public. That the dangers just alluded to are not imaginary, the following newspaper cutting of a recent date will show:

Recently on the Richmond and Danville Railroad, Pat Doucey, the engineer on a freight train, lost control of his engine entirely. The fireman noticing that the whistle was not sounded as usual, went into the cab and found the engineer sitting there paralyzed and unconscious. In great alarm he closed the throttle and jumped off the engine, but the velocity which the train had already acquired caused it to run into the rear of a freight train ahead, doing considerable damage. The engineer was not injured by the collision, but remains unconscious from paralysis.

Railroad officials generally try and often succeed in suppressing particulars of their accidents, and it is likely that more of the above sort actually occur than ever acquire currency. Newspaper publishers are not fond of displeasing their advertising patrons, and property damages, without loss of life or limb, are readily enough settled without publicity.

But it is otherwise when lives are lost. Political economists set a value upon human beings as producers of wealth, and railroad companies are apt to find that juries appreciate this, and also make liberal allowance for the lacerated affections of relatives. When the company has also neglected to provide ample surgical relief, private practitioners are sure to think highly of their services in the emergency. Besides, it would be worth to a railroad company much more than the actual damage of disaster to have been able to prevent it, for people naturally conclude that an unlucky management is safer let alone.

We may fairly take it for granted that a surgical and medical relief service will be generally adopted, at no distant day, on the important railroad lines throughout this country, as being not only in accordance with the enlightened humanity of the age, but also as a measure of economy in obviating suits for personal damages and extravagant claims for professional services. The sanitary or preventive service briefly outlined in this communication would readily attach to the other, under the same management, and thus its expense would come within extremely moderate limits, considering its importance and advantages. No new officers would be required, and the additional duties imposed upon the medical and surgical staff would be certain to diminish their functions in the relief branch of service.

S. S. H.

NEW ORLEANS, June 21, 1882.

Statistics of Immigration.

In the month of May there arrived in the customs districts of Baltimore, Boston, Detroit, Huron, Minnesota, New Orleans, New York, Passamaquoddy, Philadelphia and San Francisco 141,035 immigrants. Of this total number of immigrants there arrived from England and Wales, 13,404; Ireland, 19,747; Scotland, 3,015; Austria, 4,290; Belgium, 100; Denmark, 2,700; France, 645; Germany, 41,747; Hungary, 646; Italy, 5,141; Netherlands, 1,947; Norway, 7,161; Russia, 1,986; Poland, 1,138; Sweden, 19,372; Switzerland, 1,849; Dominion of Canada, 10,622; China, 4,861; and from all other countries, 664. The total number of immigrants arrived in the customs districts named from the principal foreign countries for the eleven months ended May 31, 1882, as compared with the same period of the previous year, was as follows:

	1882.	1881.
England and Wales.....	77,137	57,841
Ireland.....	66,086	61,796
Scotland.....	16,666	12,628
Austria.....	17,897	15,606
Germany.....	226,819	175,301
Norway.....	23,386	17,404
Sweden.....	52,964	39,661
Dominion of Canada.....	84,559	110,875
China.....	26,710	7,443
All other countries.....	93,419	64,596
Totals.....	685,634	563,151

THE Philadelphia Record signaled on the 19th inst. the "house warming" of its new building by appearing in a brand new, neat and clear typography. The new building is situated at Ninth above Chestnut streets, adjoining the new United States Post Office, and, according to *The Record's* own description of it, must be a perfect beauty to look at, a very costly one to build, and a most convenient one for its purpose. Hereafter *The Record* is to be published every day in the year—with no "skips" for Sundays or holidays.

KNOX & SHAIN,

Manufacturers of Engineering and Telegraphic Instruments. No. 716 Chestnut Street, Philadelphia. Two Medals awarded by the Franklin Institute, and one by the Centennial.

RAILROAD IRON.

The undersigned, agents for the manufacturers, are prepared to contract to deliver best quality American or Welsh Steel or Iron Rails, and of any required weight and pattern. Also Spiegel and Ferro Manganese.

PERKINS & CHOATE,

23 Nassau Street, - - - New York.

RUBBER ROOFING

Costs only \$3.25 per square, 10x10 feet, and will last a lifetime on steep or flat roofs. Send for circular and sample free.

IND. PAINT & ROOFING CO.,
Indianapolis, Ind.

KAOLATYPE
ENGRAVING COMPANY.
104 FULTON ST. N.Y.
NEW PATENT PROCESS.
Cheapest known for Original Work.

AMERICAN
COMBINATION SAW.
Without Lathe.



Price \$6 without Lathe; with Lathe, \$8.

Address the Manufacturers,
C. M. CRANDALL & CO.,
MONTROSE, Susquehanna Co., PA.

NO OTHER LINE IS SUPERIOR TO THE
FITCHBURG RAILROAD
HOOSAC TUNNEL ROUTE
WEST.

6.30 A.M. ACCOMMODATION.

Connecting at Syracuse, N. Y., at 7.15 P.M., with through sleeping cars for Cincinnati, Cleveland, Toledo, **DETROIT AND CHICAGO.**

3.00 P.M. CINCINNATI EXPRESS.

Pullman Sleeping Car attached, running through to Cincinnati without change. (Only Line running Pullman Cars from Boston.) This car runs *via* Erie Railway and N.Y., P. & O. R.R., making direct connection for Louisville, St. Louis, Kansas City, New Orleans, and all points in Texas and New Mexico.

3.00 P.M. ST. LOUIS EXPRESS.

THE ONLY LINE which runs a THROUGH SLEEPING-CAR from

BOSTON TO ST. LOUIS WITHOUT CHANGE!

ARRIVING AT 8.00 A.M. SECOND MORNING.

Through sleeping car for Buffalo, Toledo, Fort Wayne, Logansport, Lafayette, Danville, Tolono, Decatur and St. Louis, making direct connection with through Express Trains for Kansas, Colorado, Texas, and all points in the

SOUTHWEST.

6.00 P.M. PACIFIC EXPRESS.

The only line running a through sleeping car *via* Buffalo and Detroit without change, arriving at Chicago at 8.00 A.M. second morning, making sure connections with through Express Trains for Iowa, Nebraska, Kansas, Colorado, the Pacific Coast, Wisconsin, Minnesota and all points in the

WEST AND NORTHWEST.

THE ABOVE TRAINS RUN DAILY, SUNDAYS EXCEPTED.

This Great Short Line passes through the most celebrated scenery in the country, including the famous HOOSAC TUNNEL, four and three-quarters miles long, being the longest Tunnel in America, and the third longest in the world.

Tickets, Drawing-Room and Sleeping-Car Accommodations may be secured in Advance by Applying to or Addressing

250 WASHINGTON STREET, BOSTON. 250

JOHN ADAMS, General Superintendent. F. O. HEALD, Acting Gen'l Passenger and Ticket Agent.

In effect January 9th, 1882, and subject to changes.

The Grand Canon of the Arkansas.

Or the canon itself I would rather say not one word, but bow the head in reverent silence before this handiwork of the Lord. Those who have looked upon its awful grandeur will realize the powerlessness of description. The railway runs through a deep, narrow passage at the base of opposing and overlapping spurs of mountains, always following the tortuous windings of the stream which flows between, with the same wild swiftness which made Clear Creek Canon so dreadful to weak nerves. Grown more familiar now, we scarcely notice this headlong rush as cause for dismay, but we cannot grow familiar with the massive wildness of the overhanging cliffs above. Gradually the sweeping peaks rise higher, the rushing river deeper and louder; its color changes to a perfect raw sienna, which makes a delightful warm tint in the foreground. The tumbled mountains rise more boldly skyward till they seem to scale the very ramparts of heaven—clef through their center of everlasting rock by some stupendous power we can only guess at. Whatever is grandest and wildest in nature pours itself with prodigious lavishness above and around, until, as the train thunders upon a hanging bridge which spans a deep abyss, the sense of might and awfulness is so heavy on the soul that it results in a sense of real physical oppression. The roaring of the rapids, intensified by the precipices which lift themselves at each side, the solemn shadow thrown even at noonday from those mighty ledges, the stupendous majesty which seems to sweep you from all familiar things and set you face to face with the Creator, combine to impress an unearthly feeling of loneliness and awe, which remains stamped with the memory of the place forever. In the bit of dazzling blue which showed itself over the high fortress-like crags—so high that eye as well as spirit had to soar to reach their summits—two immense eagles went sweeping in airy circles till they disappeared behind the topmost peak of all. It was the only sign of life which would not have been out of harmony with the solemnity of the spot. A sombre veiling of firs covered the lower levels of the mountains, but above only the bare, barren rock rose with splintered edges into pinnacles and domes, stained here and there with the blackness of age, riven by thunderbolts or jewelled with the sparkling spray of leaping waterfalls. Even after passing this culminating point there was no anti-climax. As the road and river bed widen the heights open here and there, showing still other peaks beyond, but all yet dark and awful. By and by a single tree or a group of cottonwoods throw their fleecy, silver-stemmed branches like a point of light against the grim background, or a single snow-powdered peak of the Sangre de Cristo rises far away. Constantly changing as the whirling roads fly east or west, you get by instants some new picture, until at last through a sudden sweeping cleft the whole beautiful sunny range rises against the horizon, one rounded dazzling peak superbly prominent in the center—"clothed in white samite, mystic, wonderful." Just as this glorious vision bursts upon your raptured vision there rushes down through the center of a gorge

in the rocky chain, as sombre as blackened trunks of dead trees and funeral firs can make it, an avalanche, a torrent of tender, glowing green, a perfect cascade of verdure, where a thick belt of young trees has followed the windings of the mountain side into the open space below. For hours there is nothing to break the strain produced by this immense manifestation of sublimity. You are obliged to sit in awed and awful silence, while it pours in upon your overwrought nerves and brain, without, as one of the party aptly remarked, even being able to dam it for awhile, and take a rest.
—Correspondence of Boston Journal.

How to Treat a Boiler While Out of Use.

If you are to stop the boiler for any length of time, there are two things essential to know. If your boiler is situated in a place where it will be dry, and not in a wheel pit, or where floating moisture or the vapor from water can come in contact with it, or moisten the room about it, then the boiler should be blown off—and right here stick a pin; we do not mean blow off at 60 or 80 pounds pressure; many a boiler has been ruined the first time it has been blown off. Draw your fires, no matter what the pressure may be, and leave the boiler for half an hour or an hour—two or three hours is better—let the pressure gradually drop to at least 25 pounds, but 20 is still better. When you commence to blow off, don't open the blow-off cock full head; open it gradually until it is wide open, then shut the ash-pit and fire-pit doors, shut the damper close, but don't pull off the breech-plate or cover; leave the whole thing so that when the last drop of water and steam has gone out of it, you can close the blow-off cock and allow the boiler and brick to contract very gradually. If the room is perfectly dry, as we have stated before, the boiler can be left in this condition for months.

As a rule, it is better to blow the boiler off, leave it until it is cool—that means from 24 to 36 hours—then allow the water to run in and fill it full, clear up into the steam nozzles and steam dome, until there is positively no chance for any dead-room; then shut it up tight, not allowing the air to circulate through it, under it, or about it, and in this way the least injury will probably come to the shell of the boiler and connections. Very great care must be taken that it does not freeze in that way, for it will commence to freeze invariably in the small pipes and in those parts of the boiler where the smallest bodies of water really offer the greatest surface for refrigeration, or for the cold air to work upon. It is no use to use anti-incerustators, soft-soap, grease, potatoes, or any other kind of slush or swill. Blow the boiler off under a pressure varying from 25 pounds downward, and either one of the modes we have described here will be found safe and sure. In any event the boiler should never be filled with cold water until after a number of hours from the time it was blown off. If it is above the ground, it is perfectly safe to blow the boiler off as we have described, and then, if it be a modern, well-constructed boiler, take out the hand-holes at each end of the boiler at the bottom, the man-holes at the top, cover over these places with coarse burlap or something

that will allow of a reasonably free circulation of air, and your boiler is perfectly safe in hot or cold weather.

There may be circumstances that might require some variation, but these are the only general rules we can give as applicable to any and all conditions of locations. One thing more must always be remembered: If the boiler is in an old shed, or in such boiler-rooms as we have seen—if the boiler is where it is exposed to the droppings through leaky roofs, where frosts can gather, thaw, and fall—if the boiler is located so that water can get into the brickwork or upon the shell, there is no such thing as keeping the boiler safe and sound, or in shape to work reliably. The outside of the boiler must be kept dry when not in use, and it must be kept dry when in use; these conditions are arbitrary; that is, they admit of no qualification in either case. If the rain and frost can get upon the shell of the boiler, or upon the brickwork in which it is fixed, the mortar, brick and moisture will do more to injure the boiler than the genus sap-head engineer.—*Boston Journal of Commerce.*

THE *New York Herald*, in referring to the announcement made by President Garrett of the Baltimore and Ohio Railroad Company, that another Atlantic cable would soon be laid between Europe and this country to connect with the Baltimore and Ohio Telegraph system, says: We cannot have too many cables, and it is to be hoped that the enterprise of the Baltimore and Ohio Company will be emulated by other great railroad corporations like the Pennsylvania Railroad Company, the Chesapeake and Ohio Railway Company, and the South Carolina and Georgia Railroad operators, who are endeavoring to build up Charleston, Savannah and other Southern ports as great terminal transportation points. Mr. Garrett will, of course, have to obtain the consent of Congress to land his proposed cable on our shores, but there should be no difficulty in that direction. One restriction only is necessary, namely, that a consolidation or pooling of business with other companies should be prohibited.

THE "Tamarack Swamps," near Sharpsville, Penn., were supposed to be an innocent sort of bog until the New York, Pennsylvania and Ohio Railroad Company undertook to lay a solid roadbed across them. At first a few thousand cubic yards of earth were dumped upon the surface by the contractor with careless generosity, as much as if to say, "That will satisfy your appetite, my soft friend." But when the earth immediately disappeared and left no trace behind, a coarser diet was substituted. The company purchased from a furnace the accumulated cinders of ten years, and since January about 5,000 car loads of this substantial provender have been dropped into the swamp's voracious maw without visibly decreasing its capacity. Occasionally at night there are evidences of repletion, but in the morning the murky water presents an unruffled face and asks for more. A solid roadbed could be laid close by, entirely avoiding the swamp, but the company has elevated its corporate back and does not intend to be beaten by a miserable tamarack swamp so long as there is a dollar in the treasury.

FOR SALE.

Five New Standard Gauge Locomotives 17x24, weight 41 tons, immediate delivery.
 New Standard Gauge Locomotives 16 to 18x24. July and August delivery.
 Several Second-hand Standard Gauge Locomotives in good order, immediate delivery.
 One new 3ft. Gauge Locomotive, 12x18, weight 20 tons, immediate delivery.
 Six new 3ft. Gauge Locomotives, 18 to 24 tons, July and August delivery.
 New Saddle Tank Locomotives, 6 to 12 tons, delivery 60 to 90 days.
 New Box, Flat, and Gondola Cars, Standard and Narrow Gauge, early delivery.
 New Passenger and Combination Cars, 3ft. Gauge, delivery 90 days.
 Iron and Steel Rails, prompt delivery.
 Car Wheels and Axles.
 Narrow-Gauge Rolling-stock a specialty.

BARROWS & CO.,

84 Broadway,
 NEW YORK.

John H. Davis & Co.,
 BANKERS AND BROKERS,

No. 17 Wall Street, New York.

Interest allowed on temporary and standing deposits. Stocks and Bonds bought and sold on Commission only either on Margin or for Investment.

ALONZO FOLLETT,

9 WALL STREET, N. Y.

Negotiator of prime Commercial paper at Low Rates. Does not solicit and will not take hold of any but concerns whose paper is A 1.

Paine, Webber & Co.
 BANKERS & BROKERS,

No. 53 Devonshire St., Boston.

(Members of the Boston Stock Exchange.)

Devote special attention to the purchase and sale of Stocks and Bonds in the Boston market, the careful selection of securities for investment, and the negotiation of commercial paper.

WM. A. PAINE, WALLACE G. WEBBER, C. H. PAINE.

BROWN BROTHERS & Co.,

No. 59 WALL STREET, NEW YORK,

—BUY AND SELL—

BILLS OF EXCHANGE

—ON—

GREAT BRITAIN, IRELAND, FRANCE, GERMANY, BELGIUM, AND HOLLAND,

Issue Commercial and Travelers' Credits in Sterling, AVAILABLE IN ANY PART OF THE WORLD, AND IN FRANCS IN MARTINIQUE AND GUADALOUPE.

Make TELEGRAPHIC TRANSFERS OF MONEY between this and other countries, through London and Paris.

Make Collections of Drafts drawn abroad on all points in the United States and Canada, and of drafts drawn in the United States on Foreign Countries.

COLLINS, BOUDEN & JENKINS,

—BANKERS—

25 PINE ST. — NEW YORK

Interest allowed on Deposits subject to Draft. Securities, &c., bought and sold on Commission.

Investment Securities always on hand.

D. N. BEARDSLEY & CO.,

MANUFACTURERS OF

Superior Oak and Chestnut Lumber,
 AND RAILROAD TIES.

Oak Car Timber a Specialty.

OFFICE: 9 MURRAY ST.,
 NEW YORK.

E. W. VANDERBILT,

E. M. HOPKINS.

VANDERBILT & HOPKINS,

Railroad Ties,

CAN AND RAILROAD LUMBER, AND YELLOW PINE AND OAK.

120 Liberty Street, N. Y.

Also North Carolina Pine Boards, Plank, and Dimensions Lumber to order. General Railroad Supplies.

THE ROGERS

LOCOMOTIVE AND MACHINE WORKS,

Paterson, N. J.

Having extensive facilities, we are now prepared to furnish promptly, of the best and most approved descriptions, either

**COAL OR WOOD BURNING
 LOCOMOTIVE ENGINES,
 AND OTHER VARIETIES OF**

Railroad Machinery.

J. S. ROGERS, Pres't.
 R. S. HUGHES, Sec'y.
 WM. S. HUDSON, Supt.

Paterson, N. J.

R. S. HUGHES, Treasurer,
 44 Exchange Place, New York.

HOUSATONIC RAILROAD.

THE ONLY LINE RUNNING

THROUGH CARS

Between New York, Great Barrington, Stockbridge, Lenox, and Pittsfield—the far-famed resort of the

Berkshire Hills

of Western Massachusetts—the "Switzerland of America."

Two through trains daily between New York City and all points on the Housatonic Railroad, from the Grand Central Depot via the New York, New Haven, and Hartford Railroad at 8:02 A. M. and 3:45 P. M.

Descriptive Guide-Book sent free by mail upon application to the General Ticket Agent.

H. D. AVERILL, Gen'l Ticket Agent.

W. H. YEOMANS, Superintendent.

General Offices Bridgeport Ct. May 1, 1883.

**STEEL
 CAR
 PUSHER**

MADE ENTIRELY OF STEEL

ONE MAN with it can easily move a loaded car.

Manufactured by E. P. DWIGHT,
 DEALER IN RAILROAD SUPPLIES,

407 LIBRARY ST.,
 PHILADELPHIA.

ESTABLISHED IN 1836.

LOBDELL CAR WHEEL COMPANY,

Wilmington, Delaware.

GEORGE G. LOBDELL, President.

WILLIAM W. LOBDELL, Secretary.

P. N. BRENNAN, Treasurer.

First-Class English

IRON AND STEEL RAILS

AT LONDON PRICES, F. O. B.

We also purchase all classes of Railroad Securities and negotiate loans for Railroad Companies.

Wm. A. Guest & Co.,

MECHANICS' BANK BUILDING,

Nos. 31 and 33 Wall Street, New York.

CORNELL UNIVERSITY.

DEPARTMENTS OF

Civil Engineering,

Mechanical Engineering,

and Architecture.

Entrance examinations June 12 and Sept 19. For Annual Register containing requirements for admission and courses of instruction, with details as to the systems pursued, apply to the President of the University, or the Deans of the Departments, at Ithaca, N. Y.

**Continuous
 Automatic
 FREIGHT BRAKES.**

Requiring no other Connection between Cars than the ordinary Coupling-Link and Pin.

SIMPLE, DURABLE, AND EFFICIENT.

Brakes can be applied to every Car in the longest train, from the engine or caboose, or from any car in the train. It can be readily attached to any car, and adapted to ordinary brake beams, shoes, etc. There is no possibility of damaging wheels by "sliding."

PATENTED MAY 23, 1882.

Railroad and manufacturing companies, or parties able to co-operate with patentee in their manufacture and introduction, are invited to correspond with

WM. C. SCHULTZE,

Surgeon C., R. I. and P. Ry.

MARENGO, Iowa Co., Iowa.

A New and Cheap Insulating Material.

THE immense strides which have been made in electrical discovery, particularly in practical applications, have compelled electricians to seek for new and cheaper insulating materials than those already in use. Hitherto they have been limited to glass, porcelain, stoneware, gutta percha, india rubber and ebonite. Owing to the greatly increased demand, the price of the last three named has risen very much, and is likely to rise still more, and, while the quality has deteriorated, it is impossible for the existing sources to supply what is needed, not only for telegraph and telephone work, but for the immense field opening in electric light work. The public require, before everything, safety in the use of electricity, and there is a corresponding demand for a cheap insulating material, the supply of which shall be equal to the demand likely to arise. This has now been met by the invention of a material called "insulite." A method has been discovered by which wood, sawdust, cotton-waste, paper pulp, and other fibrous materials can be converted into a material perfectly impervious to moisture and acids, easily molded under pressure into any shape and capable of being worked or cut into any form. This material is an excellent non-conductor of electricity, and can be used for all forms of battery cells, telegraph insulators, supports for electric light leads and telephone work. It affords the means of securing perfect insulation at a very much less cost than ebonite or gutta percha. As it is perfectly impervious to moisture, articles made of it cannot shrink or warp. It supplies exactly what is wanted in practical work, in which ordinary wood cannot be used because it absorbs moisture, and ebonite is inhibited on account of its cost.—*London Times.*

The Sources of Perpetual Fertility.

In a recent speech in the United States House of Representatives at Washington, on the subject of "Our National Inheritance and How to Enjoy it," the Hon. ABRAM S. HEWITT is reported to have said:

"I never contemplate the great maps of the United States which hang in this hall, or consider the natural resources of this broad continent, without a deep feeling of wonder, love and praise. The soils, their character, chemistry, origin and value, form a vast theme of themselves, of which time will only permit me to give a single illustration. In Europe, in the fertile valley of the Rhine; in China, in the great Yellow River Valley; and in our own Mississippi basin, there is a geological formation called the loess, which is as wonderful as it is almost entirely unknown, even to the intelligent members of the House. This formation has the marvellous property of fertilizing itself forever by drawing upward from the deeper sources of fertility all the elements which are required for the perennial nourishment of the cereal crops. In China an area of about 250,000 square miles of this loess formation has for the last 300 years supported a population of not less than 150,000,000 human beings, which is about one person to the acre, and this is the explanation of the amazing capacity of China

to support the dense population which she is known to possess. The area, depth and nature of our own vast loess field, which covers a considerable part of the grain region of the West, are perhaps the most important factors in the prosperous growth of America for centuries to come."

Railroad Life-Preservers.

A MILD-MANNERED man came down the aisle of the car before we got to Utica and said, softly:

"Can I sell you a life-preserver to-day, sir?"

The Jester looked at him in amazement. "Well, hardly," he said. "If you could sell me something with which I could kill the train boy without risk of detection, now, I would consider that as near a life-preserver as anything; but I have no use for the ordinary cork jacket that is never found under the berths nor in the cabins of the ocean steamers."

"And yet," the agent softly assured him, "every day you travel on the train you run a risk of awful death. You need a life-preserver as much in a railway parlor car as on the ocean steamer. Now, I have here a very neat and useful contrivance. It is built, as you see, by this model, on the general architectural plan of the complete armor of the middle ages and gives the wearer a Richard Cœur de Lion appearance."

"I should think it would make him look more like the scrap heap of a prosperous railroad," said the Jester, "where the rusty looking old man year after year weighs and sorts rusty odds and ends that nobody ever uses. If I wore that armor of yours, the boys would kidnap me and sell me to the junkman every time the circus came around."

"This invulnerable armor," continued the agent, "is an infallible and indestructible protection against the severest shocks. You might lie down on the track, clad in this suit of mail, and let a 38-ton locomotive run over you. Steam could not scald you, and if, by the concussion of the collision, another passenger ran into you head on, it would be a cold day for the other passenger. Here at your side hangs the regulation pattern old Front de Boeuf battle-ax, with which to hew your way through the roof or sides of the overturned car and hack your unhappy passengers free from encumbering clutches of the tangled seats. Should the flames of the burning car approach near enough to threaten to roast you in your armor before you can get out, this fire-extinguisher at your back will avert the danger. This Sir Hildebrand Hildespruit railway life-saving armor is the only positive assurance a man's family have that they will ever see him again when he buys a ticket to the next station; and no wise man will travel without it. And then it secures you plenty of room in a crowded car, for the man with the big overcoat, who crowds into two-thirds of your seat and smothered you up in a corner without looking at you, can make no impression on this armor, and he won't want to dig his vicious elbows into these ribs of steel more than twice. And when—"

"That settles it," said the Jester; "you may take my measure right here."

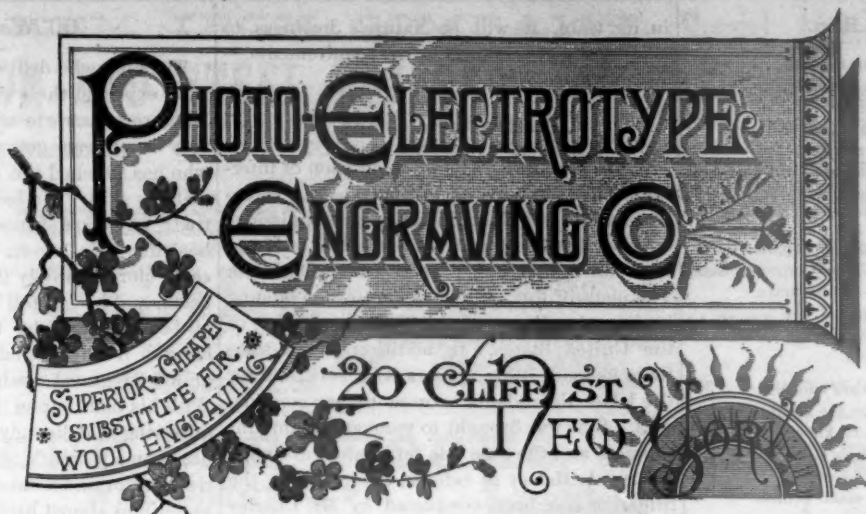
And although he had to pay twelve and a half cents a pound, delivered at the foundry,

the Jester ordered two suits—one to wear and one to set up in the seat beside him to keep out the bore who loves to shriek and howl amid the roar and rattle of the train, under the impression that he is carrying on a "conversation."—*Et.*

In Houston there seems to be an innate animosity toward Galveston, and it does not do to express your opinion about any particular Houston institution unless the opinion is prepared expressly for the Houston market. For instance, I was in a drug store, getting some medicine, and I inadvertently remarked: "Your city seems to be pretty well laid out." All in the world I meant to say was that the streets were broad and straight, but the druggist glared at me, and then bawled out: "Houston is well laid out, is she? you leprous outcast from Galveston! I tell you, you vile Galveston emissary, that Houston is a lively enough corpse to lay out that little fishing town at the other end of the bayou. You come here swelling around and trying to break up our trade, do you? So Houston is well laid out is she? We will see who is laid out next," and he began blowing a police whistle. The cashier ran up stairs for his shot-gun, while a junior member of the firm bawled out to the porter: "John, turn the bull-dog loose; it's time to feed him." These episodes tended to make my stay in that portion of the city monotonous. Besides, I was afraid, if I kept on, I might become exasperated, so I said: "Don't let me detain you from your business," and adjourned *sine die*.—*Texas Siftings.*

BEEF IN TRANSIT.—A great many complaints are rife as to the poor condition in which cattle arrive at the seaboard, and this is generally attributed to the negligence of the railroads in caring for stock in transit. The Protestant Episcopal Bishop of Nebraska expresses himself as follows in regard to the matter:

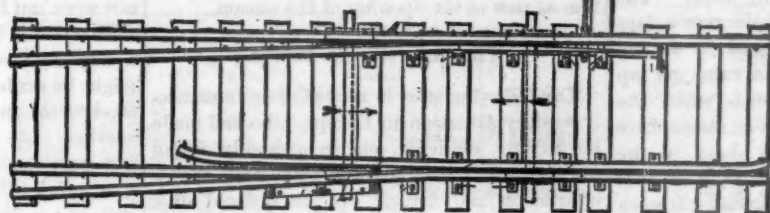
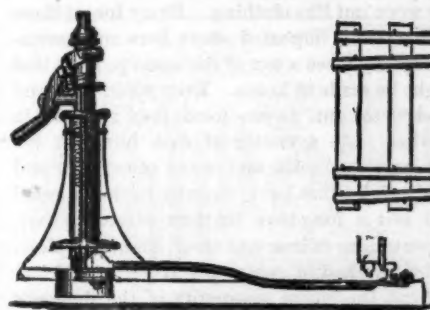
"The cattle from the plains of Wyoming, Dakota, Colorado and Montana are driven hundreds of miles without suffering, and with little or no loss, to the shipping point, where their misery and the risk of the shippers begin. They are loaded into cars as thickly as they can possibly stand, and carried for days together without rest, food or water. Within the four walls of the cars thus crowded there is an endless struggle for mere existence. The horning and trampling are as terrible as anything the imagination can conceive. If a steer is overthrown, or sinks from exhaustion, he is trodden to death, and the carcass will not be drawn out until the train reaches an unloading station. There the creatures are driven out, with blows and shouts, into a muddy yard, perhaps in the midst of a storm of sleet and snow, and fed and watered at an enormous expense to the shipper. But what must be their condition when they are landed in an eastern city after such a journey as that? They have lost flesh heavily; some are dead; many are sick and weak; all are bruised in a manner frightful for the consumer to think of, and few or none are really fit to slaughter. Yet with this beef people are regularly fed. Much is said about the adulteration of liquors and of food—why not look after the condition of our beef,



THE RAMAPO IRON WORKS,

MANUFACTURERS OF

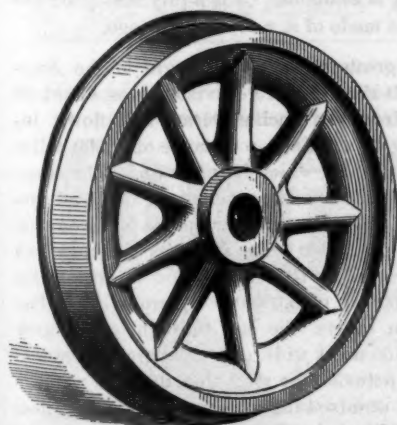
The Tracy Safety Switch, Safety Switch Stands and Stub Switch Stands; Keyed, Riveted, and Bolted Frogs of all Weights and Patterns. A specialty of an Elastic Yoked Stiff Frog and Spring Frog of the Tracy Pattern; Reversible and Interchangeable Double and Single Rail Crossings of any desired Pattern; Car, Bridge, and Turn Tables, Heavy and Light Castings, and **General Railroad Equipment.**



WORKS AND OFFICE: RAMAPO, ROCKLAND CO., NEW YORK.

F. W. SNOW, Superintendent.

THE RAMAPO WHEEL AND FOUNDRY COMPANY.



Manufacturers of

Wheels for Drawing-Room and Sleeping Coaches, Tenders, Locomotives, Passenger and Freight Cars.

W. W. SNOW, Supt., RAMAPO, Rockland Co., N. Y.

Axles Furnished and Wheels Fitted.

CONGDON'S IMPROVED CAR BRAKE SHOE.



This improvement consists of a shoe having embedded in its body of cast iron, pieces of wrought iron, steel, malleable iron, or other suitable metal, which increases surprisingly its resistance to wear. All communications should be addressed to

The Congdon Brake Shoe Co., 142 Dearborn Street, or opposite Tribune Building, Chicago.

Ramapo Wheel and Foundry Co., Ramapo, N. Y.

In the Long Run.

In the long run fame finds deserving man.
The lucky wight may prosper for a day,
But in good time true merit leads the van,
And vain pretence, unnoticed, goes its way.
There is no chance, no destiny, no fate,
But fortune smiles on those who work and wait,
In the long run.

In the long run all godly sorrow pays;
There is no better thing than righteous pain.
The sleepless nights, the awful, thorned-crowned days,
Bring sure reward to tortured soul and brain.
Unmeaning joys enervate in the end,
But sorrow yields a glorious dividend
In the long run.

In the long run all hidden things are known:
The eye of Truth will penetrate the night
And, good or ill, thy secret shall be known,
However well 'tis guarded from the light.
All the unspoken motives of the breast
Are fathomed by the years and stand confest
In the long run.

In the long run all love is paid by love,
Though undervalued by the hearts of earth;
The great eternal Government above
Keeps strict account and will redeem its worth.
Give thy love freely: do not count the cost;
So beautiful a thing was never lost
In the long run.

ELLA WHEELER.

Night-Work Versus Day-Work.

In a short article containing an abundance of true remarks, the *Lancet* discusses the question of morning work against night work. The point of it is, that though people now-a-days are not such sluggards as they used to be, yet the brain-workers do not, as a rule, get up early to do their work, although when the brain is fresh from sleep and the atmosphere comparatively pure, the work done in the morning would be infinitely better than that done at night. Also, that men who will work at night, although they may get on very well for a time, will have to pay for their mistake in the end. No doubt all this, and much more of the same sort, is true enough; but how does the matter appear when looked at practically? Is the brain-worker to revolutionize the whole household for his own convenience? If not, and supposing his wife can sleep on while he gets up, he comes down to a library with the fire out and the ashes in the grate. Shall he light his fire, or go to work in a great-coat? If the latter, what is his life worth when the housemaid comes in to clean the grate and sweep the dust? And nothing is more certain than that if he is to get up early, he must go to bed early—between nine and ten every night, in fact. It might be conceit on his part to suppose that he would be much missed from the giddy throng, but it is not easy to see where he is to work in much enjoyment of life. Again, if he be a married man, he must possess a rare treasure in his wife, or something quite the opposite, if she will be content to never be taken to ball, opera, concert or theatre by the man whose guardianship she has a right to expect. It would be well, unquestionably, if we could all live more naturally, and so never fear "nervousness." But one member of a family keeping Nature's hours would be an incongruity and a nuisance. As to the maladies which late work will bring

in its train, it will be Nature's business to adapt our organizations to our requirements.—*Evening Standard (London).*

Trade Commissions.

AFTER a year of litigation, a decision of interest to business men, as to what shall be recognized as the usage of trade in paying commissions on sales, has been rendered in the case of Moses Newman against the firm of Rosenthal & Co. The plaintiff was a salesman for the defendants, having sole charge of the Western territory of the United States. In addition to his sales there he made other sales in New York, and for the latter defendants refused to pay commission. Suit was brought to recover the amount claimed, and the case was referred to ex-Judge George A. Halsey as referee, before whom the litigation has been conducted by Mr. Charles Strauss as counsel for plaintiff and by Mr. William A. Coursen for defendant. The referee, in his decision in favor of the plaintiff, holds as a matter of usage that salesmen are entitled to commission on all sales personally made regardless of territory; on all sales to customers, when such sales are first sales in any season, regardless of the fact that the purchasers may be customers of the house; on all sales made in New York, if the house have paid him on any single sale so made; and on all sales made during the season, whether made by the salesman or not, if the customer is introduced by him as new at the opening of the season.

The American's Motto.

THE following story is related of an immensely wealthy American in Europe, who had made his fortune suddenly, and as suddenly found out that it was the correct thing to have a coat-of-arms on his carriage. So he ordered one. The celebrated advertising heraldic stationer was a bit of a wag in his way, and took the old fellow's measure at a glance. "What you want is a crest and motto, sir," said he, politely. "I guess so." He was requested to call the next day and see the design, and promptly went. The crest was a mailed arm holding a dagger—"something uncommon," the heraldry man said—and the motto, *Semper nolis omnibus benignus*, which means, he explained, translating freely, "Always noble and kind to everybody." The old man was delighted. "Now the latest style of printing mottoes," pursued the shopman, "is initializing the words after the fashion of the old Roman motto, *Senatus populus que Romanus*, which the ancients abbreviated into S. P. Q. R. Of course you'd like yours done like that, sir?" "Most assuredly," replied the living gold mine, and he forthwith ordered reams of note paper, and envelopes to match, stamped instant, in gold and silver and every known hue. Well, he and his wife used the stationery a month or so, writing to every one they could think of, when, one fine morning, while studying with more scrutiny than usual the beauty of the decoration, it suddenly dawned upon him that the caption of the sheet to which he had been daily and hourly affixing his valuable signature was nothing more nor less than S. N. O. B.—*Galigiani.*

SOLOMON was the first man who proposed to part the heir in the middle.

Oil Well Drillers.

The men who drill oil wells become wonderfully expert at their work; or perhaps it would be more accurate to say that only those who are very expert can get work. A correspondent who has watched the process thus describes a driller's skill: "He has spent years learning his trade, and learns something new with each well he drills. He knows the stratification of the earth more minutely than any geological books teach, and he can tell how near the bit is to the oil-bearing sand by the little particles that cling to it when he takes it out, or by the few grains of gravel washed out of the balings. With his hand upon the cable he marks the quivering as delicately as a physician with his finger on a patient's pulse, and by the faint varied tremor understands what the bit is doing, sometimes almost half a mile down the narrow hole. The style of different drillers varies as does the handwriting of different men, or as the touch of players upon the piano. They know each other's peculiarities, and an experienced driller can frequently tell who is in the derrick without seeing him, if he is allowed to watch the work awhile, or, what is more important in these days of mysteries, if he knows the driller he can guess the depth of the well within a hundred feet if he gets his eyes on the outside machinery for a short time."

IRON and steel are not consumed like bread nor worn out like clothing. Every ton of these metals that is imported stays here and permanently displaces a ton of the same product that might be made at home. Even when iron and steel "wear out" in one form they reappear in another. As a matter of fact, however, the iron and steel rails and some other iron and steel articles that have recently been imported will last a long time in their present forms. Importations of iron and steel had, therefore, to be checked in some way if we would not prevent the future prosperity of the domestic producers of these articles. Low prices may be a distasteful remedy for our manufacturers and their workmen, and for iron ore producers, to apply to the evil mentioned, but no other remedy is available. It is a pity that good use was not made of it a few months ago.

THE greatest river of the world is the Amazon. It rises in the Peruvian Andes, about 60 miles from the Pacific Ocean, and flows, including its windings, a distance of 4,000 miles to the Atlantic, which it enters under the equator in Brazil. The average velocity of the current is 3 miles an hour. It is navigable for large ships 2,200 miles from its mouth. The area drained by the Amazon and its tributaries is estimated at 2,000,000 square miles. The Amazon enters the sea through an estuary about 150 miles wide. So great are the volume and impetus of the river that its fresh water is carried unmixed into the sea about 200 miles. If the Missouri and the lower Mississippi were considered one river, as many geographers claim they should be, it would exceed the length of the Amazon by about 300 miles. The length of the Mississippi from Itaska Lake to the Gulf of Mexico is estimated at 3,160 miles.

BETHLEHEM IRON COMPANY, IRON AND STEEL RAILS.

GEO. A. EVANS, - 74 Wall Street, N. Y.

RAILROAD



TRACK SCALES.

RIEHLÉ BROS.
STANDARD
SCALES
AND
TESTING
MACHINES

PHILADELPHIA:
50 South Fourth Street.
NEW YORK:
115 Liberty Street.
PITTSBURG:
Library St., cor 7th Ave.
ST. LOUIS:
609 North Third Street.
NEW ORLEANS:
142 Gravier Street.

PARDEE CAR WORKS,

WATSONTOWN, PA.



PARDEE, SNYDER & Co., LIMITED,
Proprietors.



Manufacturers of Mail, Baggage, Box, Gondola, Flat, Gravel, Ore, Coal, Mine, and Hand Cars; Kelley's Patent Turn-Tables, and Centers for Wooden Turn-Tables; Car Castings, Railroad Forgings, Rolling-Mill Castings, Bridge Bolts, Castings.

We have, in connection with our Car Works, a Foundry and Machine-Shop, and are prepared to do a general Machine Business.

Chairman: **ARIO PARDEE.**

Secretary: **N. LEISER.**

Treasurer and General Manager: **H. F. SNYDER.**

New York City Office—Room 2, No. 161 Broadway.

C. W. Leavitt, Agent.



ESTABLISHED
1864.

Strictly First-Class
ACCOUNT BOOKS!

FINE MERCANTILE

Printing.

All Orders Executed on
our own Premises.

Bankers and Merchants who appreciate **THE VERY BEST QUALITY OF WORK** and are willing to pay a fair price for it, are invited to favor us with their orders. We are Headquarters.

HULIN'S BURLINGTON LETTER FILE

THE MOST POPULAR LETTER FILE
—ever introduced.—

More than
250,000
of them
in
use.



Unequaled in durability, cheapness, or convenience in filing and reference. We have supplied them to a large number of the leading Bankers and Merchants of New York City and elsewhere, and in every case they are highly recommended.

Price \$6.00 per doz.

Parties ordering them to be sent by mail should send the amount due for Postage, 17 cents each, in addition to the price for the Files.

JOHN S. HULIN, Stationer,
Established 1864. 411 B'way, N. Y.

Special Absorbent Wiper Cloths,

—FOR—

LOCOMOTIVES, REPAIR SHOPS,
PASSENGER-CARS, ETC.

\$3.00 Per Hundred

SPECIAL PRICE FOR LARGE LOTS.

Every Purchasing Agent in the Country may try these free of expense by writing for Samples.

Brown Manufacturing Co., Providence, R. I.

J. G. TILLOTSON & Co. supply the N. Y. trade.

FOR SALE.

A First-Class

OFFICE CLOCK

Made by Sherry & Byran, Sag Harbor, N. Y.

Price \$50.

IS AN EXCELLENT TIME-KEEPER.

CAN BE SEEN AT

Geo. N. Joyce's,

32 Fulton Street,

NEW YORK.

Under the United States Hotel.

EAGLE TUBE COMPANY

NEW YORK

614 to 626 West Twenty-fourth Street.

Boiler Tubes

Of all regular sizes, of the best material, and warranted.

Locomotive Water - Grates a specialty, and 20 per cent below regular prices.

PRICES LOWER THAN OTHER MANUFACTURERS.

NO PAYMENT REQUIRED UNTIL
TUBES ARE TESTED AND
SATISFACTORY.

N. B.—Send for Stock List

Canadian Pacific Railway.

THE following is a condensation, by the *Toronto Mail*, of the very elaborate speech of Sir Charles Tupper, the Canadian Premier, in the Dominion Parliament a few weeks since:—

1. The Sault Ste. Marie line is to become, in fact, a part of the main line of the Pacific Railway. This is effected by means of a crossing at Sturgeon River, and the construction of the line away on from that to Algoma Mills.

2. The company expect to lay down tracks on 50 miles west of Callendar Station. From Algoma Mills near the waters of the lake, a section of 50 miles has been laid under contract, running eastwardly to meet the line beginning at Callendar.

3. The main line of the Pacific Railway as now projected will run west from Algoma Mills to within twenty or thirty miles of the Sault Ste. Marie. This location is still under the consideration of the Government. It has some obvious advantages which cannot be overlooked.

4. Until this question of the route is settled the Government will pay no subsidy on the link of 60 or 70 miles common to both the Pacific main line as formerly projected and the Sault Ste. Marie line. This indicates business-like caution on the part of the Government.

5. It is expected that the line from Prince Arthur's Landing to Winnipeg will be opened in July next for all practical purposes of freight and passenger accommodation, though the road will not be actually complete in all its appointments.

6. Traffic will be taken to the Georgian Bay, thence by water to Prince Arthur's Landing, and thence on the Winnipeg and beyond by rail, a route through our own territory accomplished after long labors and great expense.

7. Of the 433 miles from Prince Arthur's Landing to Winnipeg the rails are laid on 401 miles, leaving only 32 miles more to cover. But the line will not be actually finished till next season.

8. The total expenditure on this section of the road to the present time—that is, to the last payment—is \$13,224,000, and the balance of expenditure will not exceed \$1,400,000.

9. The line is now located definitely 470 miles west from Winnipeg, and the Government does not intend to assent to further location till it is seen whether the Kicking Horse pass is available or not, the evidence so far being in favor of a change from the hitherto accepted Yellow Head Pass.

10. The distance of 116 miles west of Winnipeg is now under traffic. About 8,000 tons of rails are now on the spot, and large quantities are on their way for the purposes of track-laying.

11. Up to the present time the company have been paid only \$1,610,000 and 1,610,000 acres of land as their portion of the subsidy.

12. The Pacific Railway Company have, in addition to their main line, graded 89 miles of a branch called the Winnipeg and Pembina Mountain branch, running southwesterly from Winnipeg to the border; and in addition to a branch connecting with Emerson, it is expected

that 100 miles will be under traffic during the present season.

13. A branch from Brandon is also projected in a southeasterly direction, 15 miles to Souris and thence west, in all 195 miles; and this with the other branch of 225 miles will make a total, apparently, of 420 miles of branch lines which the company are building without subsidy.

14. The question of the Rocky Mountain pass is not yet settled. The government, in view of the probability of another pass being chosen, takes power to adopt it; but in the meantime there are only strong probabilities in favor of the change.

15. This change to the Kicking Horse Pass will, if it takes place, make a saving of 79 miles in the length of the road; but as in the case of the change on the eastern section, the cost to the company will be increased, not diminished, as was said, by the alteration of the route.

16. The Yale-Kamloops section is progressing very favorably. It is the most expensive and difficult section of the road. The total value of the work done is, so far, \$1,979,973. The date of completion is July, 1885, and the Minister anticipates it will be accomplished within that time.

17. The portion from Emory's Bar to Port Moody has lately been placed under contract at a probable cost of \$2,486,000, to be finished in July, 1885.

18. The estimates of cost of the various sections and the actual cost as now ascertained or estimated, are as follows:—

	Present Estimate.	Contract Sum.
Kaministiquia to Sunshine Creek, 45 miles, reduced to 32½	\$313,200	\$293,360
Sunshine Creek to English River.....	1,417,208	1,037,061
English River to Eagle River.....	1,767,357	2,300,196
Eagle River to Keewatin.....	2,904,153	4,130,707
Keewatin to Cross Lake.....	2,619,585	1,844,085
Cross Lake to Selkirk.....	733,602	402,950
	1,192,600	1,746,150
	1,368,670	2,056,950
	1,927,000	2,573,640
	2,324,000	2,727,300
	2,486,000	2,486,000
British Columbia.....		

19. The actual commercial value of the road when completed is stated so concisely by the Minister that we shall not attempt to abridge it. He says: "Now, assuming that the 79 miles on the British Columbia line are saved, our position will be this: From Montreal to Port Moody by the Canadian Pacific Railway, the distance will be 2,850 miles; from New York to Port Moody via the Canadian Pacific Railway and Montreal, the distance will be 3,260 miles. From New York to Port Moody by the Canadian Pacific Railway and Brockville, the distance will be 3,140 miles. Now the distance from New York to San Francisco via the Central and Union Pacific railroads is 3,331 miles. As the distance from Montreal to Port Moody is only 2,850 miles, we shall be able, with our better line, better grades and freedom from the bonded debt under which the Union and Central Pacific railroads suffer, to compete with the lines to the south of us, and with the aid of fast steamers, connecting San Francisco with Victoria, to secure a considerable portion of the trade with San Francisco and the Western States. From Liverpool to Montreal, 2,790 miles; from Liverpool to New York, 3,040 miles; from Liverpool to Port Moody via Montreal and the Canadian Pacific Railway, 6,063

from Liverpool to San Francisco via United States roads, the shortest route that could be obtained, 6,836; from Liverpool to Yokohama and Japan via Montreal and the Canadian Pacific Railway, 10,963; from Liverpool to Yokohama via San Francisco, 12,038. So we shall have a route from Liverpool to Port Moody via Montreal and the Canadian Pacific Railway 767 miles shorter than via New York and San Francisco, showing that so far as through traffic is concerned it will be utterly impossible for any road on the continent to begin to compete with the Canadian Pacific. From Liverpool to Yokohama via the Canadian Pacific the route will be 1,075 miles shorter than via New York and San Francisco. Looking at it a little closer home, I am glad to find the result is such as will be favorably received by the House. From Liverpool to Halifax it is 2,480 miles; from Halifax to Quebec, 680 miles; from Quebec to Montreal, 176 miles; from Montreal to Port Moody, 2,850, or 3,706 from sea to sea, from Halifax to Port Moody. Liverpool to Port Moody, 6,186 miles; from Liverpool to New York it is 3,040; New York to San Francisco, 3,790—making a total of 6,830 miles."

A Street Car Which Carries its Track.

THE Accommodation Car Company has begun operations in Chicago with a capital stock of \$1,000,000 divided between the patentee, T. T. Prosser, and F. F. Cole, a real estate man. The object of the company is to build and equip a thousand cars and put them upon the streets of Chicago. The car is the patent of Mr. Prosser, and, as regards present appearance, is a queer, oglesome looking craft, which carries its track along with it, and to all intents and purposes is designed to traverse any and all lines of streets. The car, which is of the ordinary kind, is mounted, in the middle, upon a truck which sits on four wheels, each about one foot in diameter. These wheels run around the inside of two steel tires, each ten feet in diameter, and which rest upon the ground, and are only held to the car by a set of wheel-clamps. The car is designed to hold 50 people, and the owners claim that the more it carries the easier it runs. It will be stopped in the usual manner, and two horses will be required to pull it. The owners say they intend putting the cars upon the principal streets of the city, and placing the cash fares at four cents, and selling 30 rides for \$1.

WHEN Captain Cook first discovered Australia, he saw some natives on the shore, one of whom held a dead animal in his hand. The Captain sent a boat's crew ashore to purchase the animal, and finding, on receiving it, that it was a beast quite new to him, he sent the boatswain back to ask the natives its name. "What do you call this 'ere animal?" said the sailor to the naked native. The latter shook his head and answered, "Kan-ga-roo," which means in Australian lingo, "I don't understand." When the sailor returned to the ship the Captain said, "Well, and what's the name of the animal?" The sailor replied, "Please, sir, the black party says it's a kangaroo." The beast has kept the name ever since.